

STATE OF UTAH

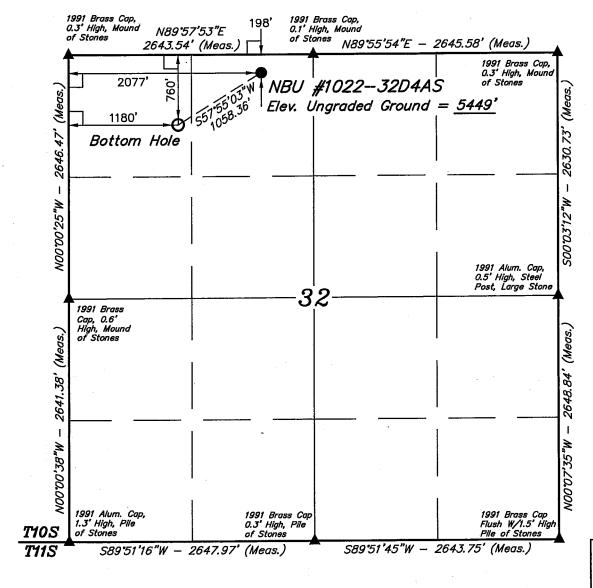
DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

	_
FORM	3

AMENDED REPORT (highlight changes)

,	,	APPLICA	TION FOR	PERMIT TO	D DRILL		AL LEASE NO: _ 22798	6. SURFACE: State
1A. TYPE OF WO	DRK: D	RILL 🔽	REENTER	DEEPEN		7. IF INDI. N/A	AN, ALLOTTEE OR T	RIBE NAME:
B. TYPE OF WE	ill: OIL 🗌	gas 🚺	OTHER	SIN	GLE ZONE MULTIPLE ZON	E .ZI 8. UNIT or	CA AGREEMENT N	AME:
2. NAME OF OPE		- (	<u> </u>	<u> </u>		9. WELL I	NAME and NUMBER	
3. ADDRESS OF	e Oil & Gas	Onshore, I	<u> </u>		PHONE NUMBER:		1022-32D4A AND POOL, OR WI	
P.O. Box 1	73779	<sub>CITY</sub> Denv	er <sub>sta</sub>	CO ZIP 80	217-3779 (720) 929-6226	Natur	al Buttes Fie	ld
AT SURFACE:	198' FNL 8	ፄ 2077' FW	L LAT 39.91:	2161 LON -10	3/2012 - 109.46469 19.46485(NAD 27)	3		NSHIP, RANGE,
AT PROPOSED	30457 X	NE: NWNW 4418 73	760' FNL & 1	180' FWL, Se	ec. 32, T10S, R22E -109 467 899			
14. DISTANCE IN	MILES AND DIRE	CTION FROM NE	AREST TOWN OR PO			12. COUN	ITY:	13. STATE: UTAH
	es southea					Uinta		
15. DISTANCE TO	O NEAREST PROF	PERTY OR LEASE	LINE (FEET)	16. NUMBER O	F ACRES IN LEASE: 640	17. NUMBER OF	ACRES ASSIGNED	TO THIS WELL:
18. DISTANCE TO	O NEAREST WELL R) ON THIS LEASE	(DRILLING, COM	PLETED, OR	19. PROPOSED	DEPTH:	20. BOND DESCR	RIPTION:	
500'			<u> </u>		8,738	RLB0005	237	
	S (SHOW WHETHE	R DF, RT, GR, ET	C.):	22. APPROXIM	ATE DATE WORK WILL START:	23. ESTIMATED I	DURATION:	
5449' GR			<u> </u>			10 days		
24.			PROPOS	ED CASING A	ND CEMENTING PROGRAM			
SIZE OF HOLE	CASING SIZE,	GRADE, AND WE	GHT PER FOOT	SETTING DEPTH	CEMENT TYPE, QU	ANTITY, YIELD, AND	SLURRY WEIGHT	
12 1/4"	9 5/8"	J-55	36#	1,800	Premium Cement	215 sx	1.18	15.6
					Premium Cement	50 sx	1.18	15.6
7 7/8"	4 1/2"	I-80	11.6#	8,500	Premium Lite II	340 sx	3.38	11.0
					50/50 Poz G	1310 sx	1.31	14.3
,								
						· .		· · · · · · · · · · · · · · · · · · ·
25.				ATTA	CHMENTS		,	
VERIFY THE FOL	LOWING ARE ATT	FACHED IN ACCO	RDANCE WITH THE U	TAH OIL AND GAS C	ONSERVATION GENERAL RULES:		·	· · · · · · · · · · · · · · · · · · ·
✓ WELL PL	AT OR MAP PREP	ARED BY LICENS	ED SURVEYOR OR E	NGINEER	COMPLETE DRILLING PLAN			•
<b>V</b> IDENO	: CE OF DIVISION O	F WATER RIGHTS	APPROVAL FOR US	OF WATER	FORM 5, IF OPERATOR IS PE	RSON OR COMPAN	IY OTHÈR THAN TH	E LEASE OWNER
				,				
NAME (PLEASE	PRINT) Kevin	McIntyre	<del></del>	·	TITLE Regulatory An	alyst I		···
SIGNATURE	K	- n	-		DATE 7/2/2008			**************************************
(This space for Sta	ite use only)		······································		Approved by the	REC	EIVED	
				n	Utah Division of il, Gas and Mining	JUL	0 8 2008	
API NUMBÉR AS	SIGNED:	43-047	40205		APPROVAL:			
		1 - 1 /	- Co J		11-84-08-2	DIV. OF OIL	, GAS & MININ	lG
(11/2001)				Date (See Instruction	ons on Reverse side)	•		

## T10S, R22E, S.L.B.&M.



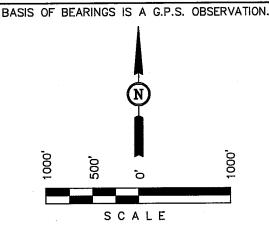
#### Kerr-McGee Oil & Gas Onshore LP

Well location, NBU #1022-32D4AS, located as shown in the NE 1/4 NW 1/4 of Section 32, T10S, R22E, S.L.B.&M. Uintah County, Utah.

#### BASIS OF ELEVATION

TWO WATER TRIANGULATION STATION LOCATED IN THE NW 1/4 OF SECTION 1, T10S, R21E, S.L.B.&M. TAKEN FROM THE BIG PACK MTN NE, QUADRANGLE, UTAH, UINTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5238 FEET.

#### BASIS OF BEARINGS



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLANED FREPARED FIELD NOTES OF ACTUAL SURVEYS MAD THAT THE SAME AND CORRECT BEST OF MY KNOWLEDGE AND PELICES. BEST OF MY KNOWLEDGE AND BELIEF

UINTAH ENGINEERING & LAND SURVEYING 85 SOUTH 200 EAST - VERNAL, UTAH 84078 (435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: DATE DRAWN: 05-21-08 05-29-08			
PARTY D.K. C.K. C.C.	REFERENCES G.L.O. PLAT			
WEATHER WARM	FILE Kerr-McGee Oil & Gas Onshore LP			

#### LEGEND:

= 90° SYMBOL

= PROPOSED WELL HEAD.

= SECTION CORNERS LOCATED.

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)	╠
LATITUDE = 39'54'38.11" (39.910586)	LATITUDE = 39'54'43.66" (39.912128)	ľ
LONGITUDE = $109'28'07.43''$ ( $109.468731$ )	LONGITUDE = 109°27'55.92" (109.465533)	
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (SURFACE LOCATION)	V
LATITUDE = 39'54'38.23" (39.910619)	LATITUDE = 39'54'43.78" (39.912161)	L
LONGITUDE = 109'28'04.97" (109.468047)	LONGITUDE = 109'27'53.46" (109.464850)	A .

#### NBU 1022-32D4AS NENW Sec. 32, T10S,R22E UINTAH COUNTY, UTAH ST ML 22798

#### **ONSHORE ORDER NO. 1**

#### DRILLING PROGRAM

#### 1. Estimated Tops of Important Geologic Markers:

Formation	<u>Depth</u>
Uinta	0- Surface
Green River	968'
Birds Nest	1320'
Mahogany	1686'
Wasatch	4034'
Mesaverde	6494'
MVU2	7473'
MVL1	8089'
TVD	8500'
TD ·	8738'

#### 2. Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Substance	<u>Formation</u>	<u>Depth</u>
	Green River	968'
Water	Birds Nest	1320'
Water	Mahogany	1686'
Gas	Wasatch	4034'
Gas	Mesaverde	6494'
Gas	MVU2	7473'
Gas	MVL1	8089'
Water	N/A	

N/A

#### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program.

#### 4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program.

#### 5. **Drilling Fluids Program:**

Other Minerals

Please refer to the attached Drilling Program.

#### 6. Evaluation Program:

Please refer to the attached Drilling Program.

#### 7. <u>Abnormal Conditions</u>:

Maximum anticipated bottomhole pressure calculated at 8500' TVD, approximately equals 5270 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 3400 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

#### 8. <u>Anticipated Starting Dates:</u>

Drilling is planned to commence immediately upon approval of this application.

#### 9. Variances:

Please refer to the attached Drilling Program.

Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is

not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A

booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

#### 10. Other Information:

Please refer to the attached Drilling Program.

#### NBU 1022-32D4AS NENW SEC. 32, T10S, R22E UINTAH COUNTY, UTAH ST ML 22798

#### ONSHORE ORDER NO. 1

#### MULTI-POINT SURFACE USE & OPERATIONS PLAN

#### **Directional Drilling:**

In accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

#### 1. Existing Roads:

Refer to Topo Map A for directions to the location.

Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

Refer to Topo Maps A and B for location of access roads within a 2 mile radius.

All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.

#### 2. Planned Access Roads:

Approximately 0.2 mi. +/- of access road re-route is proposed. Please refer to the attached Topo Map R

The upgraded and new portions of the access road will be crowned and ditched with a running surface of 18 feet and a maximum disturbed width of 30 feet. Appropriate water control will be installed to control erosion.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site.

The access road was centerline flagged during time of staking.

Surfacing material may be necessary, depending upon weather conditions.

Surface disturbance and vehicular traffic will be limited to the approved location and approved access route. Any additional area needed will be approved in advance.

#### 3. <u>Location of Existing Wells Within a 1-Mile Radius:</u>

Please refer to Topo Map C.

#### 4. <u>Location of Existing & Proposed Facilities:</u>

The following guidelines will apply if the well is productive.

All production facilities will be located on the disturbed portion of the well pad and at a minimum of 25 feet from the toe of the back slope or the top of the fill slope.

A dike will be constructed completely around those production facilities which contain

fluids (i.e., production tanks, produced water tanks, and/or heater/treater). These dikes will be constructed of compacted subsoil, be impervious, hold 100% of the capacity of the largest tank, and be independent of the back cut.

All permanent (on-site six months or longer) above the ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the five state Rocky Mountain Inter-Agency Committee.

All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The required color is Carlsbad Canyon, standard color number 2.5Y 6/2.

Any necessary pits will be properly fenced to protect livestock and prevent wildlife entry.

Approximately 1,019' of 4" pipeline is proposed. Refer to Topo D for the proposed pipeline.

#### 5. <u>Location and Type of Water Supply:</u>

Water for drilling purposes will be obtained from Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32, T4S, R3E, Water User Claim #43-8496, Application #53617.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### 6. <u>Source of Construction Materials</u>:

Surface and subsoil materials in the immediate area will be utilized.

Any gravel will be obtained from a commercial source.

#### 7. <u>Methods of Handling Waste Materials</u>:

Drill cuttings will be contained and buried in the reserve pit.

Drilling fluids, including salts and chemicals, will be contained in the reserve pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within 120 days after drilling is terminated.

#### NBU 1022-32D4AS Surface Use & Operations Plan

The reserve pit will be constructed on the location and will not be located within natural drainage, where a flood hazard exists or surface runoff will destroy or damage the pit walls. The reserve pit will be constructed so that it will not leak, break, or allow discharge of liquids.

A plastic reinforced liner and felt will be used, it will be a minimum of 20 mil thick, with sufficient bedding used to cover any rocks. The liner will overlap the pit walls and be covered with

Page 3

dirt and/or rocks to hold it in place. No trash or scrap that could puncture the liner will be disposed of in the pit.

Any spills of oil, gas, salt water, or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

A chemical porta-toilet will be furnished with the drilling rig.

Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. No trash will be burned on location.

All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.

Any open pits will be fenced during the operations. The fencing will be maintained until such time as the pits are backfilled.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

Any produced water from the proposed well will be contained in a water tank and will then be hauled By truck to one of the pre-approved disposal sites: RNI, Sec. 5, T9S, R22E, NBU #159, Sec. 35, T9S, R21E, Ace Oilfield, Sec. 2, T6S, R20E, MC&MC, Sec. 12, T6S, R19E, Pipeline Facility, Sec. 36, T9S, R20E, Goat Pasture Evaporation Pond, SW/4 Sec. 16, T10S, R22E, Bonanza Evaporation Pond, Sec. 2, T10S, R23E.

#### 8. Ancillary Facilities:

None are anticipated.

#### 9. Well Site Layout: (See Location Layout Diagram)

The attached Location Layout Diagram describes drill pad cross-sections, cuts and fills, and locations of the mud tanks, reserve pit, flare pit, pipe racks, trailer parking, spoil dirt stockpile(s), and surface material stockpile(s).

Please see the attached diagram to describe rig orientation, parking areas, and access roads.

The reserve pit will be lined, and when the reserve pit is closed, the pit liner will be buried below plow depth.

All pits will be fenced according to the following minimum standards:

39 inch net wire will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.

The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.

Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance

between any 2 fence posts shall be no greater than 16 feet.

All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

The reserve pit fencing will be on three sides during drilling operations, and on the fourth side when the rig moves off location. Pits will be fenced and maintained until cleanup.

Location size may change prior to the drilling of the well due to current rig availability. If the proposed location is not large enough to accommodate the drilling rig the location will be re-surveyed and a Form 9 shall be submitted.

#### 10. Plans for Reclamation of the Surface:

Producing Location:

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, materials, trash, and debris not required for production.

Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.

A plastic, nylon reinforced liner will be used, it shall be torn and perforated before backfilling of the reserve pit.

Before any dirt work associated with location restoration takes place, the reserve pit shall be as dry as possible. All debris in it will be removed. Other waste and spoil materials will be disposed of immediately upon completion of operations.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours. The reserve pit will be reclaimed within 90 days from the date of well completion, weather permitting.

To prevent surface water (s) from standing (ponding) on the reclaimed reserve pit area, final reclamation of the reserve pit will consist of "mounding" the surface three feet above surrounding ground surface to allow the reclaimed pit area to drain effectively.

Upon completion of backfilling, leveling, and recontouring, the stockpiled topsoil will be spread evenly over the reclaimed area(s).

Dry Hole/Abandoned Location:

Abandoned well sites, roads, and other disturbed areas will be restored as near as practical to their original condition. Where applicable, these conditions include the re-establishment of irrigation systems, the re-establishment of appropriate soil conditions, and re-establishment of vegetation as specified.

All disturbed surfaces will be recontoured to the approximate natural contours, with reclamation of the well pad and access road to be performed as soon as practical after final abandonment. Reseeding operations will be performed after completion of other reclamation operations.

#### 11. <u>Surface/Mineral Ownership:</u>

SITLA 675 East 500 South, Suite 500 Salt Lake City, UT 84102

#### 12. Other Information:

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, the approved Plan of Operations, and any applicable Notice of Lessees. The Operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The Operator will control noxious weeds along Rights-Of-Way for roads, pipelines, well sites, or other applicable facilities.

A Class III archaeological survey will be submitted when report becomes available.

This location is not within 460' from the boundary of the Natural Buttes Unit, nor is it within 460' of any non-committed tract lying within the boundaries of the Unit.

#### 13. Lessee's or Operators's Representative & Certification:

Kevin McIntyre Regulatory Analyst Kerr-McGee Oil & Gas Onshore LP P.O. Box 173779 Denver, CO 80217-3779 (720) 929-6226 Randy Bayne
Drilling Manager
Kerr-McGee Oil & Gas Onshore LP
1368 South 1200 East
Vernal, UT 84078
(435)781-7018

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond #RLB0005237.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by the Operator, its contractors, and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Kevin McIntyre

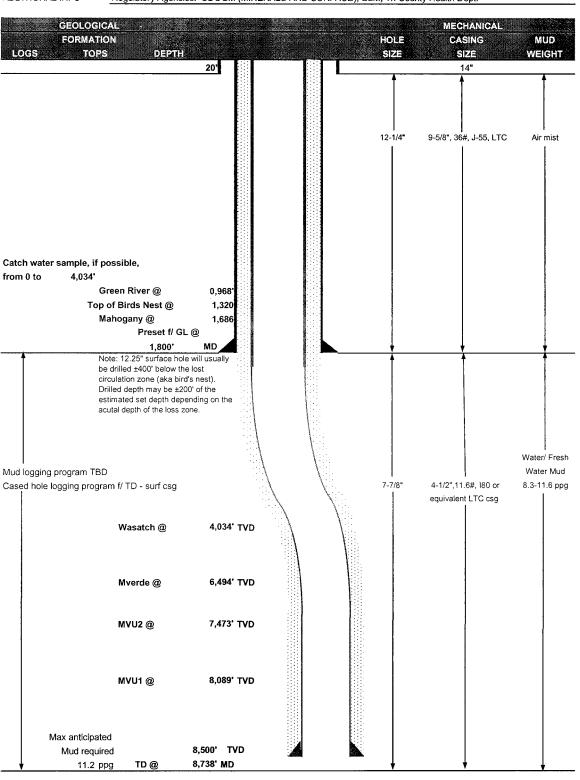
7/2/2008

Date



## KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP	DATE	July 2, 2008	
WELL NAME	NBU 1022-32D4AS	TD	8,500' TVD	8,738' MD
FIELD Natural Butte	county Uintah STATE	Jtah	ELEVATION 5,449' GL	KB 5,464'
SURFACE LOCATION	NENW 198' FNL & 2077' FWL, Sec. 32, T 10S R	22E		
	Latitude: 39.912161 Longitude: -109	.46485	NAD 27	
BTM HOLE LOCATION	NWNW 760' FNL & 1180' FWL, Sec. 32, T 10S R	22E		
	Latitude: 39.910619 Longitude: -109	.468047	NAD 27	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde			
ADDITIONAL INFO	Regulatory Agencies: UDOGM (MINERALS AND	SURFACE	), BLM, Tri-County Health Dep	l.







#### **CASING PROGRAM**

									DESIGN FACT	ORS
	SIZE	INTE	ERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0	-40'							
								3520	2020	453000
SURFACE	9-5/8"	0	to	1800	36.00	J-55	LTC	1.14	2.40	8.90
	ì						]	7780	6350	201000
PRODUCTION	4-1/2"	0	to	8500	11.60	I-80	LTC	2.53	1.28	2.27

- 1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point)
- 2) MASP (Prod Casing) = Pore Pressure at TD (.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 11.2 ppg)

.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

3400 psi

#### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD:	500	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1			+ .25 pps flocele	ļ			
	TOP OUT CMT (1)	200	20 gals sodium silicate + Premium cmt	50		15.60	1.18
			+ 2% CaCl + .25 pps flocele				
	TOP OUT CMT (2)	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
SURFACE			NOTE: If well will circulate water to sur	face, optic	n 2 will be	utilized	
Option 2	LEAD	1500	65/35 Poz + 6% Gel + 10 pps gilsoníte	360	35%	12.60	1.81
			+.25 pps Flocele + 3% salt BWOW	İ			
	TAIL	500	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ .25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
				İ			
PRODUCTI	ON LEAD	3,528'	Premium Lite II + 3% KCI + 0.25 pps	340	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel	ł			
			+ 0.5% extender				
	TAIL	5,210'	50/50 Poz/G + 10% salt + 2% gel	1280	40%	14.30	1.31
			+.1% R-3				

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe.					
PRODUCTION	Float shoe, 1 jt, float collar. Centralize first 3 joints & every third joint to top of tail cement with bow spring centralizers.					

#### **ADDITIONAL INFORMATION**

DRILLING

ENGINEER:	Brad Laney	
Most rigs have PVT S	ystem for mud monitoring. If no PVT is available, visual monitoring will be utilized.	
Drop Totco surveys e	very 2000'. Maximum allowable hole angle is 5 degrees.	
& lower kelly valves.		
tour sheet. Function	est rams on each trip. Maintain safety valve & inside BOP on rig floor at all times. Kelly to be equipped with upper	
BOPE: 11" 5M with o	ne annular and 2 rams. Test to 5,000 psi (annular to 2,500 psi) prior to drilling out. Record on chart recorder &	
Test casing head to 7	50 psi after installing. Test surface casing to 1,500 psi prior to drilling out.	

DRILLING SUPERINTENDENT: Randy Bayne DATE:

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained



# **Weatherford**\*

## **Drilling Services**

## **Proposal**



#### Anadarko Petroleum Corp.

NBU 1022-32C PAD NBU 1022-32D4AS UINTAH COUNTY, UTAH WELL FILE: PLAN 1 JUNE 27, 2008

#### Weatherford International Ltd.

2000 Oil Drive Casper, Wyoming 82604 +1.307.265.1413 Main +1.307.235.3958 Fax www.weatherford.com

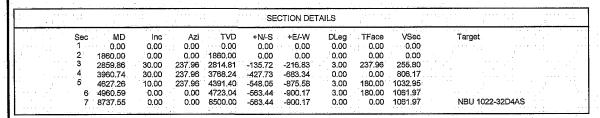




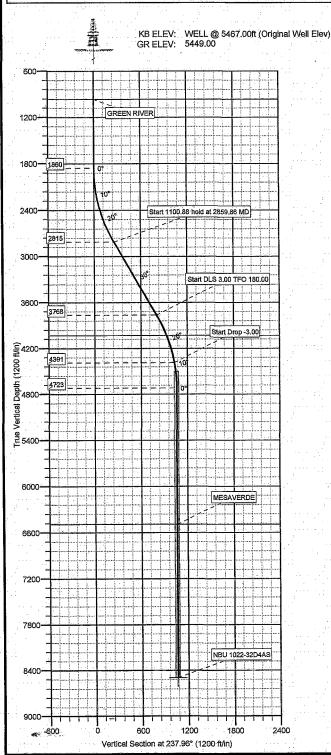
NBU 1022-32D4AS 198' FNL, 2077' FWL CARBON COUNTY, UT Latitude: 39° 54' 43.776 N Longitude: 109° 27' 53.460 W







-			WELLBORE TARGET	DETAILS (MAP	CO-ORDINATES	AND LAT/LONG)		
	Name	TVD	+N/-S +E/-W	Northing	Easting	Latitude	Longitude	Shape
	NBU 1022-32D4AS	8500.00	-561.31 -896.77	580963.01	2569928.37	39° 54' 38.228 N	109° 28' 4.969 W	Circle (Radius: 25.00)



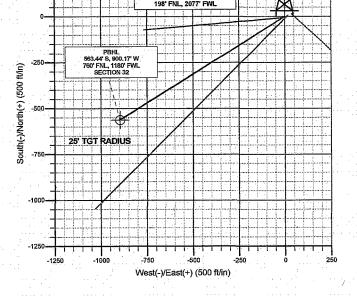
## FORMATION TOP DETAILS TVDPath MDPath Formation 968.00 GREEN RIVER

TVDPath MDPath Formation 968.00 968.00 GREEN RIVER 4034.00 4255.65 WASATCH 6494.00 6731.55 MESAVERDE



Azimuths to True North Magnetic North: 11.45° Magnetic Field

Magnetic Field Strength: 52567,4snT Dip Angle: 65.88° Date: 6/27/2008 Model: BGGM2007



Plan: Design #1 (NBU 1022-32D4AS/NBU 1022-32D4AS)

Created By: TRACY WILLIAMS Date:

14:34, June 27 2008



## ANADARKO PETROLEUM CORP.

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27) ANADARKO 1022-32C PAD NBU 1022-32D4AS

**NBU 1022-32D4AS** 

Plan: Design #1

## **Standard Planning Report**

27 June, 2008





#### Weatherford International Ltd. Planning Report





Database: Company: EDM 2003.21 Single User Db

Project:

ANADARKO PETROLEUM CORP. UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

Site: Well: ANADARKO 1022-32C PAD

Wellbore:

NBU 1022-32D4AS NBU 1022-32D4AS

Design:

Design #1

Local Co-ordinate Reference:

**TVD Reference:** 

**MD Reference:** 

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev)

WELL @ 5467.00ft (Original Well Elev)

North Reference:

**Survey Calculation Method:** 

True

Minimum Curvature

Project

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)

Map System: Geo Datum:

US State Plane 1927 (Exact solution)

NAD 1927 (NADCON CONUS)

System Datum:

Mean Sea Level

Map Zone:

Utah Central 4302

Site

ANADARKO 1022-32C PAD

Site Position:

Lat/Long

Northing: Easting:

581,559.99ft

Latitude:

39° 54' 43.920 N 109° 27' 52.981 W

**Position Uncertainty:** 

0.00 ft

Slot Radius:

2,570,849.12ft

Longitude:

Grid Convergence:

1.30°

Well

From:

NBU 1022-32D4AS

**Well Position** 

+N/-S +E/-W -14.58 ft -37.32 ft Northing: Easting:

Wellhead Elevation:

581,544.57 ft

2,570,812.14 ft 5,449.00 ft Latitude: Longitude: **Ground Level:** 

39° 54' 43.776 N 109° 27' 53.460 W

5,449.00 ft

**Position Uncertainty** 

0.00 ft

Wellbore Magnetics NBU 1022-32D4AS **Model Name** 

Sample Date

Declination (°)

**Dip Angle** (°)

**Field Strength** (nT)

BGGM2007

6/27/2008

11.45

65.88

52,567

Design

Design #1

Audit Notes:

Version:

Phase:

**PROTOTYPE** 

Tie On Depth:

0.00

**Vertical Section:** 

Depth From (TVD) (ft)

0.00

+N/-S (ft)

0.00

+E/-W (ft) 0.00

Direction (°)

237.96

**Plan Sections** 

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,860.00	0.00	0.00	1,860.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,859.86	30.00	237.96	2,814.81	-135.72	-216.83	3.00	3.00	0.00	237.96	
3,960.74	30.00	237.96	3,768.24	-427.73	-683.34	0.00	0.00	0.00	0.00	
4,627.26	10.00	237.96	4,391.40	-548.05	-875.58	3.00	-3.00	0.00	180.00	
4,960.59	0.00	0.00	4,723.04	-563.44	-900.17	3.00	-3.00	0.00	180.00	
8,737.55	0.00	0.00	8,500.00	-563.44	-900.17	0.00	0.00	0.00	0.00	NBU 1022-32D4AS





Planning Report



Database: Company: Project:

EDM 2003.21 Single User Db ANADARKO PETROLEUM CORP. UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

ANADARKO 1022-32C PAD

Well: Wellbore: Design:

Site:

NBU 1022-32D4AS NBU 1022-32D4AS

Design #1

**Local Co-ordinate Reference:** 

TVD Reference: MD Reference:

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev)

WELL @ 5467.00ft (Original Well Elev)

North Reference:

**Survey Calculation Method:** 

True

Minimum Curvature

#### **Planned Survey**

	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
	0.00 100.00 200.00 300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 100.00 200.00 300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
	400.00 500.00 600.00 700.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	400.00 500.00 600.00 700.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
	800.00 900.00 968.00 <b>GREEN RI</b>		0.00 0.00 0.00	800.00 900.00 968.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00
): 	1,000.00 1,100.00 1,200.00 1,300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	1,000.00 1,100.00 1,200.00 1,300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
	1,400.00 1,500.00 1,600.00 1,700.00 1,800.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	1,400.00 1,500.00 1,600.00 1,700.00 1,800.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
	1,860.00 <b>Start Build</b> 1,900.00 2,000.00 2,100.00	0.00 1 3.00 1.20 4.20 7.20	0.00 237.96 237.96 237.96	1,860.00 1,900.00 1,999.87 2.099.37	0.00 -0.22 -2.72 -7.99	-0.36 -4.35 -12.77	0.00 0.42 5.13 15.06	3.00 3.00 3.00 3.00	3.00 3.00 3.00 3.00	0.00 0.00 0.00 0.00
	2,200.00 2,300.00 2,400.00 2,500.00 2,600.00	10.20 13.20 16.20 19.20 22.20	237.96 237.96 237.96 237.96 237.96	2,198.21 2,296.12 2,392.83 2,488.09 2,581.62	-16.01 -26.77 -40.23 -56.36 -75.12	-25.59 -42.77 -64.28 -90.05 -120.01	30.18 50.46 75.83 106.23 141.58	3.00 3.00 3.00 3.00 3.00	3.00 3.00 3.00 3.00 3.00	0.00 0.00 0.00 0.00 0.00
	2,700.00 2,800.00 2,859.86	25.20 28.20 30.00 <b>3.88 hold at 28</b>	237.96 237.96 237.96	2,673.18 2,762.51 2,814.81	-96.44 -120.28 -135.72	-154.07 -192.16 -216.83	181.77 226.69 255.80	3.00 3.00 3.00	3.00 3.00 3.00	0.00 0.00 0.00
	2,900.00 3,000.00 3,100.00 3,200.00	30.00 30.00 30.00 30.00	237.96 237.96 237.96 237.96	2,849.57 2,936.18 3,022.78 3,109.39	-146.37 -172.89 -199.42 -225.94	-233.84 -276.22 -318.59 -360.97	275.87 325.86 375.86 425.85	0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
	3,300.00 3,400.00 3,500.00 3,600.00	30.00 30.00 30.00 30.00	237.96 237.96 237.96 237.96	3,196.00 3,282.60 3,369.21 3,455.82	-252.47 -278.99 -305.52 -332.04	-403.35 -445.72 -488.10 -530.48	475.84 525.84 575.83 625.82	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
	3,700.00 3,800.00 3,900.00 3,960.74 Start DLS	30.00 30.00 30.00 30.00 <b>3.00 TFO 180.</b>	237.96 237.96 237.96 237.96	3,542.42 3,629.03 3,715.64 3,768.24	-358.57 -385.09 -411.62 -427.73	-572.85 -615.23 -657.61 -683.34	675.82 725.81 775.80 806.17	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
	4,000.00 4,100.00 4,200.00 4,255.65 WASATCI	28.82 25.82 22.82 21.15	237.96 237.96 237.96 237.96	3,891.28 3,982.40 4,034.00	-437.95 -462.30 -484.15 -495.20	-699.68 -738.58 -773.48 -791.14	825.45 871.33 912.51 933.34	3.00 3.00 3.00 3.00	-3.00 -3.00 -3.00 -3.00	0.00 0.00 0.00 0.00



### Weatherford International Ltd.





Database: Company: Project:

Design:

EDM 2003.21 Single User Db ANADARKO PETROLEUM CORP. UINTAH COUNTY, UTAH (UTM Zone

Site: Well: Wellbore: 12N-NAD 27) ANADARKO 1022-32C PAD NBU 1022-32D4AS

NBU 1022-32D4AS

Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference:

Survey Calculation Method:

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev) WELL @ 5467.00ft (Original Well Elev)

True

Minimum Curvature

#### **Planned Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
 4,300.00 4,400.00	19.82 16.82	237.96 237.96	4,075.54 4,170.46	-503.43 -520.10	-804.29 -830.93	948.86 980.28	3.00 3.00	-3.00 -3.00	0.00 0.00
4,500.00 4,600.00 4,627.26	13.82 10.82 10.00	237.96 237.96 237.96	4,266.90 4,364.59 4,391.40	-534.12 -545.44 -548.05	-853.32 -871.40 -875.58	1,006.70 1,028.03 1,032.95	3.00 3.00 3.00	-3.00 -3.00 -3.00	0.00 0.00 0.00
Start Drop 4,700.00 4,800.00	7.82 4.82	237.96 237.96	4,463.26 4,562.64	-554.02 -559.86	-885.13 -894.45	1,044.22 1,055.22	3.00 3.00	-3.00 -3.00	0.00 0.00
4,900.00 4,960.59	1.82 0.00	237.96	4,662.46 4,723.04	-562.93 -563.44	-899.36 -900.17	1,061.01 1,061.97	3.00 3.00	-3.00 -3.00	0.00 0.00
	.96 hold at 496		4 700 45	EÓO 44	000.47	1 061 07	0.00	0.00	0.00
5,000.00 5,100.00 5,200.00	0.00 0.00 0.00	0.00 0.00 0.00	4,762.45 4,862.45 4,962.45	-563.44 -563.44 -563.44	-900.17 -900.17 -900.17	1,061.97 1,061.97 1,061.97	0.00	0.00 0.00	0.00 0.00
5,300.00 5,400.00 5,500.00 5,600.00 5,700.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	5,062.45 5,162.45 5,262.45 5,362.45 5,462.45	-563.44 -563.44 -563.44 -563.44	-900.17 -900.17 -900.17 -900.17	1,061.97 1,061.97 1,061.97 1,061.97 1,061.97	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
5,800.00 5,900.00 6,000.00 6,100.00 6,200.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	5,562.45 5,662.45 5,762.45 5,862.45 5,962.45	-563.44 -563.44 -563.44 -563.44	-900.17 -900.17 -900.17 -900.17	1,061.97 1,061.97 1,061.97 1,061.97 1,061.97	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
6,300.00 6,400.00 6,500.00 6,600.00 6,700.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	6,062.45 6,162.45 6,262.45 6,362.45 6,462.45	-563.44 -563.44 -563.44 -563.44 -563.44	-900.17 -900.17 -900.17 -900.17	1,061.97 1,061.97 1,061.97 1,061.97	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
6,731.55	0.00	0.00	6,494.00	-563.44	-900.17	1,061.97	0.00	0.00	0.00
6,800.00 6,900.00 7,000.00 7,100.00	0.00 0.00 0.00	0.00 0.00 0.00 0.00	6,562.45 6,662.45 6,762.45 6,862.45	-563.44 -563.44 -563.44 -563.44	-900.17 -900.17 -900.17 -900.17	1,061.97 1,061.97 1,061.97 1,061.97	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
7,200.00 7,300.00 7,400.00 7,500.00 7,600.00	0.00 0.00 0.00 0.00	0.00 0.00	6,962.45 7,062.45 7,162.45 7,262.45 7,362.45	-563.44 -563.44 -563.44 -563.44	-900.17 -900.17 -900.17 -900.17 -900.17	1,061.97 1,061.97 1,061.97 1,061.97 1,061.97	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
7,700.00 7,800.00 7,900.00 8,000.00 8,100.00	0.00 0.00 0.00	0.00 0.00 0.00	7,462.45 7,562.45 7,662.45 7,762.45 7,862.45	-563.44 -563.44 -563.44 -563.44	-900.17 -900.17 -900.17 -900.17	1,061.97 1,061.97 1,061.97 1,061.97	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
8,200.00 8,300.00 8,400.00 8,500.00 8,600.00	0.00 0.00 0.00	0.00 0.00 0.00	7,962.45 8,062.45 8,162.45 8,262.45 8,362.45	-563.44 -563.44 -563.44 -563.44	-900.17 -900.17 -900.17 -900.17	1,061.97 1,061.97 1,061.97 1,061.97	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
8,700.00 8,737.55			8,462.45 8,500.00	-563.44 -563.44	-900.17 -900.17	1,061.97 1,061.97	0.00 0.00	0.00 0.00	0.00 0.00







#### Planning Report



Database:

EDM 2003.21 Single User Db

Company: Project:

ANADARKO PETROLEUM CORP.

UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

ANADARKO 1022-32C PAD

Well:

NBU 1022-32D4AS NBU 1022-32D4AS

Wellbore: Design:

Site:

Design #1

Local Co-ordinate Reference:

**TVD Reference:** 

MD Reference:

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev) WELL @ 5467.00ft (Original Well Elev)

North Reference:

**Survey Calculation Method:** 

Minimum Curvature

**Planned Survey** 

Measured

Depth (ft)

Inclination Azimuth (°) (°)

Vertical Depth (ft)

+N/-S (ft)

+E/-W (ft)

Vertical Dogleg Section Rate (°/100ft) (ft)

Build Rate (°/100ft)

Turn Rate (°/100ft)

TD at 8737.55 - NBU 1022-32D4AS

**Formations** 

Depth	Depth		
(ft)	(ft)		Name
968.00	968.00	GREEN RIVER	₹ .
4,255.65	4,034.00	WASATCH	
6.731.55	6,494.00	MESAVERDE	

Vartical

Dip Direction Dip (°) Lithology 0.00

0.00 0.00 (°)

**Plan Annotations** 

Measured Depth	Vertical Depth	Local Coordi	inates +E/-W	
(ft)	(ft)	(ft)	(ft)	Comment
1.860.00	1,860.00	0.00	0.00	Start Build 3.00
2,859.86	2,814.81	-135.72	-216.83	Start 1100.88 hold at 2859.86 MD
3,960.74	3,768.24	-427.73	-683.34	Start DLS 3.00 TFO 180.00
4,627.26	4,391.40	-548.05	-875.58	Start Drop -3.00
4,960.59	4,723.04	-563.44	-900.17	Start 3776.96 hold at 4960.59 MD
8,737.55	8,500.00	-563.44	-900.17	TD at 8737.55



# ANADARKO PETROLEUM CORP.

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27) ANADARKO 1022-32C PAD NBU 1022-32D4AS

NBU 1022-32D4AS Design #1

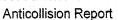
## **Anticollision Report**

27 June, 2008











Company:

ANADARKO PETROLEUM CORP.

Project:

UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

Reference Site: Site Error:

ANADARKO 1022-32C PAD

0.00ft

Reference Well: Well Error:

NBU 1022-32D4AS

0.00ft

Reference Wellbore NBU 1022-32D4AS

Reference Design:

Design #1

Local Co-ordinate Reference:

TVD Reference:

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev)

MD Reference:

WELL @ 5467.00ft (Original Well Elev)

North Reference:

**Survey Calculation Method:** 

Minimum Curvature

Output errors are at

Offset TVD Reference:

2.00 sigma

Database:

EDM 2003.21 Single User Db

Offset Datum

Reference

Design #1

Filter type:

Interpolation Method: Stations

NO GLOBAL FILTER: Using user defined selection & filtering criteria

**ISCWSA** 

Depth Range: Results Limited by: Unlimited

Maximum center-center distance of 10,000.00ft

Scan Method: Error Surface: Closest Approach 3D Elliptical Conic

Warning Levels Evaluated at:

2.00 Sigma

**Survey Tool Program** 

Date 6/26/2008

From (ft)

To

Survey (Wellbore) (ft)

**Tool Name** 

Description

0.00

8,737.34 Design #1 (NBU 1022-32D4AS)

MWD

MWD - Standard

	Summary							
		Reference	Offset	Dista	nce			
ŀ		Measured	Measured	Between	Between	Separation	Warnin	g
	Site Name Offset Well - Wellbore - Design	Depth (ft)	Depth (ft)	Centres (ft)	Ellipses (ft)	Factor		
	ANADARKO 1022-32C PAD	(1.0)	(10)	(1.0)	(,,,			
	NBU 1022-32B3S - NBU 1022-32B3S - Design #1	1,860.00	1,860.00	40.06	31.96	4.948	CC, ES	
ł	NBU 1022-32B3S - NBU 1022-32B3S - Design#1	1,900.00	1,899.62	40.65	32.40	4.924	SF 44 4	
١	NBU 1022-32D1S - NBU 1022-32D1S - Design#1	2,122.97	2,120.64	18.35	9.29	2.025	CC, ES, SF	
	NBU 1022-32D4DS - NBU 1022-32D4DS - Design#1	1,860.00	1,860.00	20.14	12.04	2.487	CC	
1	NBU 1022-32D4DS - NBU 1022-32D4DS - Design#1	2,000.00	2,001.35	20.47	11.87	2.380	ES, SF	
	ranga kanalaga kanal							

Survey Pro Refer	gram: 0-M	WD Offse	et	Semi Major	Axis				Dista	ınce		,	Offset V	Nell Error:	0.00 ft
leasured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbor +N/-S (ft)	e Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		Warning	
0.00	0.00	0.00	0.00	0.00	0.00	68.71	14.55	37.32	40.06						
100.00	100.00	100.00	100.00	0.09	0.09	68.71	14.55	37.32	40.06	39.87	0.18	217.338			
200.00	200.00	200.00	200.00	0.32	0.32	68.71	14,55	37.32	40.06	39.42	0.63	63.198			
300.00	300.00	300.00	300.00	0.54	0.54	68.71	14.55	37.32	40.06	38,97	1.08	36.975			
400.00	400.00	400.00	400.00	0.77	0.77	68.71	14.55	37.32	40.06	38.52	1.53	26.132			
500.00		500.00	500.00	0.99	0.99	68.71	14.55	37.32	40.06	38.07	1.98	20.206			
600.00	600.00	600.00	600.00	1.22	1.22	68.71	14.55	37.32	40.06	37.63	2.43	16.471			
700.00	700.00	700.00	700.00	1.44	1.44	68.71	14.55	37.32	40.06	37.18	2.88	13.901			
800.00		800.00	800,00	1.67	1.67	68.71	14.55	37.32	40.06	36.73	3.33	12.025			
900,00		900,00	900.00	1.89	1.89	68.71	14.55	37.32	40.06	36.28	3.78	10.596			
1,000.00		1,000.00	1,000.00	2.12	2.12	68.71	14.55	37.32	40.06	35.83	4.23	9.470			
1,100,00	1.100.00	1.100.00	1,100.00	2.34	2.34	68.71	14.55	37.32	40,06	35.38	4.68	8.560			
1,200.00		1,200.00	1,200.00	2,56	2.56	68.71	14.55	37.32	40.06	34.93	5.13	7.810			
1,300.00	.,	1,300.00	1,300.00	2.79	2.79	68.71	14.55	37.32	40.06	34.48	5,58	7.180			
1,400.00		1,400.00	1,400.00	3.01	3.01	68.71	14.55	37.32	40.06	34.03	6.03	6.645			
1,500.00		1,500.00	1,500.00	3.24	3.24	68.71	14.55	37.32	40,06	33.58	6.48	6.184			
1.600.00	1,600.00	1,600.00	1,600.00	3,46	3,46	68.71	14.55	37.32	40.06	33.13	6.93	5.783			
1,700.00		1,700,00	1.700.00	3.69	3.69	68.71	14.55	37.32	40.06	32.68	7.38	5.430			
1.800.00		1,800.00	1.800.00	3.91	3,91	68.71	14.55	37.32	40.06	32.23	7.83	5.118			
1.860.00		1,860.00	1,860.00	4.05	4.05	68.71	14.55	37.32	40.06	31.96	8.10	4.948 C	C, ES		
1,900.00		1,899.62	1,899.62	4.13	4.13	-168.84	14.27	37.62	40.65	32,40	8,26	4.924 S	F		



#### Weatherford International Ltd.

Anticollision Report



Company: Project:

ANADARKO PETROLEUM CORP. UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

Reference Site: Site Error:

ANADARKO 1022-32C PAD

Reference Well:

0.00ft NBU 1022-32D4AS

Well Error:

0.00ft

Reference Wellbore NBU 1022-32D4AS

Reference Design: Design #1

Local Co-ordinate Reference:

**TVD Reference:** 

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev) WELL @ 5467.00ft (Original Well Elev)

MD Reference:

North Reference:

**Survey Calculation Method:** 

Output errors are at

Offset TVD Reference:

Database:

Minimum Curvature 2.00 sigma

EDM 2003.21 Single User Db

Offset Datum

	esign		TINO IU	22-020 FF	10 - IND	J 1022-02	B3S - NBU 10	3200			1.1		Offset W	lell Error:	0.0
Refer		Offs		Semi Major						ance	B#ImIr	Sanametic-	Judet M		
asured epth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbor +N/-S (ft)	e Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		Warnin	g
	1,999.87	1,998.26	1.998.14	4.31	4.31	-164.89	11.15	41.00	47.45	38.85	8.60	5.517			
,000.000	2,099.37	2,095.50	2,094.91	4.51	4.49	-159.44	4.71	47.98	62.22		8.94	6.957			
,100.00		•	2,188.77	4.73	4.69	-154.74	-4.79	58.27	85.13		9.29				
2,200.00	2,198.21	2,190.42				-151.26	-16,98	71,47	115.96		9.64	12.024			
2,300.00	2,296.12	2,282.18	2,278.75	4.98	4.92				154.32		10.02				
2,400.00	2,392.83	2,370.09	2,364.05	5.28	5.17	-148.69	-31.39	87.07							
2,500.00	2,488.09	2,453.60	2,444.09	5.66	5.47	-146.69	-47.53	104.55	199.71						
2,600.00	2,581.62	2,532.29	2,518.49	6.12	5.79	-145.02	-64.90	123,36	251.63						
2,700.00	2,673.18	2,605.89	2,587.08	6.69	6.14	-143.50	-83.01	142.98	309.57	298.23	11.34	27.299			
2,800.00	2,762.51		2,649.82	7.36	6,53	-142.02	-101.43	162.93	373.01	361.12	11.89	31.364			
2,859.86			2,684.61	7.82	6.77	-141.11	-112.44	174.85	413.41	401.16	12.25	33.752			
2,900.00			2,707.00	8.15	6.94	-141.18	-119.83	182.86	441.21		12.54	35.179			
2,800.00	2,049,01	2,707.00									40.00	20.474			
3,000.00	2,936.18	2,800.00	2,762.51	9,01	7.37	-141.18	-139.24	203.87	511.65						
3,100.00	3,022.78	2,860.01	2,814.94	9.90	7.85	-140.99	-159.04	225,32	583.67						
3,200.00		2,922.33	2,868.91	10.82	8.38	-140.74	-180.18	248.21	656.52						
3,300.00			2,928.18	11.76	8.98	-140.53	-203.39	273.35	729.42	713.54	15.88				
3,400.00			2,987.44	12.73	9.60	-140,35	-226.60	298.49	802.32	785.51	16.81	47,719			
0 500 00	0.000.04	2 407 62	3,046.71	13.70	10.24	-140.20	-249.81	323.63	875.22	857.45	17.77	49.257			
3,500.00					10.89	-140.08	-273.03	348.77	948.13						
3,600.00			3,105.97	14.69				373,91	1,021.03						
3,700.00			3,165.23	15.68	11.56	-139.97	-296.24								
3,800.00	3,629.03	3,332.93	3,224.50	16.69	12,23	-139.88	-319.45	399.04	1,093.94						
3,900.00	3,715.64	3,401.36	3,283.76	17.69	12.91	-139.80	-342.66	424.18	1,166.85	5 1,145.09	21.76	53,616			
3,960.74	3,768.24	3,442.93	3,319.76	18.31	13.32	-139.75	-356.76	439,45	1,211.13	3 1,188.74	22.39	54.093			
4,000.00			3,343.22	18.66	13.60	-140.50	-365.95	449.40	1,239.55	5 1,216.73	22.8	54.338			
4,100.00					14.31	-142.11	-390.00	475.45	1,309.94	1,286.08	3 23.86	54.907			
		•		20.11		-143.36	-414.93	502.45	1,377.36			55.252			
4,200.00				20.72	15.84	-144.32	-440.67	530,33	1,441.68						
							407.40	EEO 04	1 500 70	0 4 475 70	37.0	7 55,504			
4,400.00	4,170.46	3,768.38	3,601.61		16.64	-145.03	-467.16	559.01	1,502.78						
4,500.00	4,266.90	3,848.43	3,670.93	21.74	17.47	-145.53	-494.31	588.41	1,560.5						
4,600.00	4,364.59	3,930.22	3,741.77	22.13	18.32	-145.84	-522.05	618.46	1,614.98	8 1,585.86					
4,627.26	4,391.40	3,952.80	3,761.32	22.22	18.56	-145.90	-529.71	626.75	1,629.2	2 1,599.83	3 29.38				
4,700.00					19.19	-146.00	-550.32	649.07	1,665.96	6 1,635.89	30.0	7 55.407			
4 000 00		4 400046	2 007 24	22.68	20.08	-146.01	-579.02	680.16	1,713.4	7 1,682.5	1 30.9	5 55.354			
4,800.00							-608.08	711.63							
4,900.00								730.86							
4,960.59							-625.84								
5,000.00							-637.41 -666.79	743.40 775.2							
5,100.00	0 4,862.4	5 4,356.92	4,111.30	23,04	22.01	50.00	-000.79	. , , , , ,	1,555.5						
5,200.00	4,962.4	5 4,443.52	4,186.30	23.13	23.72	94.45	-696.16	807.03	1,880.0	4 1,846.0					
5,300.00	-						-725.54	838,84	1,921.5	3 1,886.8	34.6	7 55.425			
5,400.00		•					-754.91	870.65			7 35.3	55.540			
							-825.97	947.6							
5,500.00				_			-952.36	1,084.48							
3,230.00							050.00	4.004.49	2 000 4	n 10001	o 30.5	3 51 555			
5,700.00							-952.36 -952.36	1,084.48 1,084.48							
5,800.0										4 4 4					
5,900.0							-952.36	1,084.48							
6,000.0							-952.36 -952.36	1,084.48 1,084.48							
6,100.0	0 5,862.4	5 6,197.38	5,862.4	5 24.08	31.37	101.09	-952.30	. 1,004.40							
6,200.0	0 5,962.4	5 6,297.38	5,962.4	5 24.20			-952.36	1,084.4							
6,300.0	0 6,062.4	5 6,397.38	6,062.4	5 24.3	1 31.54	101.09	-952.36	1,084.4							
6,400.0						101.09	-952.36	1,084.4	3 2,022.4	0 1,981.4					
6,500.0						4 1	-952.36	1,084.4	3 2,022.4	0 1,981.1	4 41.2	6 49.013	3 .		





Anticollision Report



Company: Project:

ANADARKO PETROLEUM CORP. UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

Reference Site:

ANADARKO 1022-32C PAD

Site Error:

0.00ft

Reference Well:

NBU 1022-32D4AS

Well Error:

0.00ft

Reference Wellbore NBU 1022-32D4AS

Reference Design: Design #1 Local Co-ordinate Reference:

TVD Reference:

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev)

MD Reference:

North Reference:

**Survey Calculation Method:** 

Output errors are at

Database:

Offset TVD Reference:

WELL @ 5467.00ft (Original Well Elev)

Minimum Curvature

2.00 sigma

EDM 2003.21 Single User Db

Offset Datum

Offset D			ARKO 10	22-32C PA	D- NB	U 1022-32	B3S - NBU 10	22-32B3	S - Desigr	า#1			Offset Site Error: Offset Well Error:	0.00 ft 0.00 ft
iurvey Pro Refer	gram: 0-M	WD Offs	et	Semi Major	Axis				Dista	ince	A		Oliset Well Ellot.	0.001
leasured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore +N/-S (ft)	Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
6,700.00	6.462.45	6,797.38	6,462.45	24.79	31.90	101.09	-952.36	1,084.48	2,022.40	1,980.60	41.80	48.378		
6,800.00	6,562,45	6.897.38	6,562,45	24.91	31.99	101.09	-952.36	1,084.48	2,022.40	1,980.32	42.08	48.061		
6,900.00	6.662.45	6.997.38	6.662.45	25.03	32.09	101.09	-952.36	1,084,48	2,022.40	1,980.04	42.36	47.745		
7,000.00	6.762.45	7,097.38	6,762.45	25,16	32.18	101.09	-952.36	1,084.48	2,022.40	1,979.76	42.64	47.431		
7.100.00	6,862,45	7,197.38	6,862.45	25.29	32.28	101.09	-952,36	1,084.48	2,022.40	1,979.48	42.92	47.117		
7,200.00	6,962.45	7,297.38	6,962.45	25.41	32.38	101.09	-952.36	1,084.48	2,022.40	1,979.19	43.21	46.804		
7.300.00	7.062.45	7.397.38	7,062.45	25.54	32.48	101.09	-952.36	1,084.48	2,022.40	1,978.90	43.50	46.492		
7,400.00	7.162.45	7.497.38	7.162.45	25.67	32.58	101.09	-952,36	1,084.48	2,022.40	1,978.61	43.79	46.182		
7,500.00	7.262.45	7.597.38	7.262.45	25.81	32.68	101.09	-952.36	1,084.48	2,022.40	1,978.32	44.09	45.873		
7,600.00	7,362.45	7,697.38	7.362.45	25.94	32.78	101.09	-952,36	1,084.48	2,022.40	1,978.02	44.38	45.565		
7,700.00		7,797.38	7,462.45	26.07	32.89	101.09	-952.36	1,084.48	2,022.40	1,977.72	44.68	45.259		
7,800.00	7.562.45	7,897.38	7,562,45	26.21	32.99	101.09	-952.36	1,084.48	2,022.40	1,977.42	44.99	44,955		
7,900,00	•	7.997.38	7.662.45	26.35	33.10	101.09	-952.36	1,084.48	2,022.40	1,977.11	45.29	44.652		
8,000.00	7,762,45	8.097.38	7.762.45	26.48	33.21	101.09	-952.36	1,084.48	2,022.40	1,976.80	45.60	44.351		
8,100.00		8,197,38	7.862.45	26,62	33.32	101.09	-952,36	1,084.48	2,022.40	1,976.49	45.91	44.052		
8,200.00		8,297.38	7,962.45	26.76	33,43	101.09	-952.36	1,084.48	2,022.40	1,976.18	46.22	43.755		
8,300.00	8,062,45	8,397,38	8.062.45	26.91	33.54	101.09	-952.36	1,084.48	2,022.40	1,975.87	46.54	43.459		
8.400.00		8,497,38	8,162,45	27.05	33,65	101.09	-952.36	1,084.48	2,022.40	1,975.55	46.85	43,166		
8,500.00		8,597.38	8,262,45	27.19	33.77	101.09	-952.36	1,084.48	2,022.40	1,975.23	47.17	42.874		
8,600.00		8,697.38	8.362.45	27.34	33.88	101.09	-952.36	1,084.48	2,022.40	1,974.91	47.49	42.585		
8,700.00		8,797.38	8,462.45	27.48	34.00	101.09	-952.36	1,084.48	2,022.40		47.81	42.297		
8,737.55	8,500.00	8.834.93	8.500.00	27.54	34.04	101.09	-952.36	1,084.48	2,022.40	1,974.47	47.94	42.190		



#### Weatherford International Ltd.

Anticollision Report



Company: Project:

ANADARKO PETROLEUM CORP. UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

Reference Site:

Site Error:

0.00ft

Reference Well: Well Error:

NBU 1022-32D4AS

Reference Wellbore NBU 1022-32D4AS

0.00ft

Reference Design: Design #1

ANADARKO 1022-32C PAD

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev)

MD Reference:

TVD Reference:

WELL @ 5467.00ft (Original Well Elev)

North Reference:

**Survey Calculation Method:** 

Local Co-ordinate Reference:

Minimum Curvature

Output errors are at

2.00 sigma

Database:

EDM 2003.21 Single User Db

Offset TVD Reference: Offset Datum

ffset D				0_0 17	140	OZZ OZ	D1S - NBU 10	'					Office NA	I Error	0.00 ft
	gram: 0-W			Comi Mai-	Avic				Dief	ance			Offset Wel	CHOF:	0.0010
Refer	The second second	Offse		Semi Major		Highelda	Offset Wellbor	o Contro	Between	1000	Minimum	Separation		Mamin	S. 3. 3.
easured Depth	Depth	Measured Depth	Vertical Depth	Reference		Highside Toolface	+N/-S	+E/-W	Centres	Ellipses	Separation	Factor		Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)				
0.00	0.00	0.00	0.00	0.00	0.00	-111.20	-7.28	-18.78	20.14						
100.00	100.00	100.00	100.00	0.09	0.09	-111.20	-7.28	-18.78	20.14	19,96	0.18	109.282			
200.00	200.00	200.00	200.00	0.32	0.32	-111.20	-7.28	-18.78	20.14	19.51	0.63	31.777			
300.00		300.00	300.00	0.54	0.54	-111.20	-7.28	-18.78	20.14	19.06	1.08	18.592			
400.00		400.00	400.00	0.77	0.77	-111.20	-7.28	-18.78	20.14	18.61	1.53	13.139			
500.00		500.00	500.00	0.99	0.99	-1.11.20	-7.28	-18.78	20.14			10.160			
300.00	000.00	000.00	000,00	0.00											
600.00	600.00	600.00	600.00	1.22	1.22	-111.20	-7.28	-18.78	20.14	17.71	2.43	8.282			
700.00		700.00	700.00	1.44	1.44	-111.20	-7.28	-18.78	20.14	17.26	2.88	6.990			
800.00		800.00	800.00	1.67	1.67	-111.20	-7.28	-18.78	20.14	16.81	3.33	6.047			
900.00		900.00	900.00	1.89	1.89	-111.20	-7.28	-18.78	20.14		3.78	5,328			
1,000.00			1,000.00	2,12	2.12	-111.20	-7.28	-18.78	20.14						
1,000.00	1,500.00	1,000.00	.,000.00	2,12											
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	-111.20	-7.28	-18.78	20.14	15.46	4.68	4.304			
1,200.00			1,200.00	2.56	2.56	-111.20	-7.28	-18.78	20.14	15.01	5,13	3.927			
1,300.00			1,300.00	2.79	2.79	-111.20	-7.28	-18.78	20.14	14.56	5.58	3.610			
1,400.00			1,400.00	3.01	3.01	-111.20	-7.28	-18.78	20.14		6.03	3.341			
1,500.00			1,500.00	3.24	3.24	-111.20	-7.28	-18.78							
,,000.00	.,555.50	,,500,00	.,	J	':										
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3,46	-111.20	-7.28	-18.78	20.14	13.21	6.93	2.908			
1,700.00		*	1,700.00	3.69	3.69	-111.20	-7.28	-18.78	20.14	12.76	7.38	2.730			
1.800.00			1,800,00	3.91	3.91	-111.20	-7.28	-18.78	20.14	12.32	7.83	2.574			
1,860.00			1,860.00	4.05	4.05	-111.20	-7.28	-18.78			8.10	2.488			
1,900.00		•	1,899.66	4.13	4.13	11.34	-7.31	-19.12							
1,000.00	,300.00	1,000.00	1,000,00	7.10	-1.10	11,04	,								
2,000.00	1,999.87	1,998.81	1,998.72	4.31	4.33	17.20	-7.64	-22.96	19.29	10.67	8.62	2.239			
2,100,00			2,097.47	4.51	4.53	30.77	-8.34	-31.07	18.41	9,43	8.98	2.051			
2,122.97			2,120.08	4.56	4.58	35.06	-8.55	-33.53	18.35	9.29	9.06	2.025	CC, ES, SF		
2,200.00			2,195.66	4.73	4.75	51.79	-9.40	-43.40			9.38	2.043			
2,300.00		•	2,293.09	4.98	5.00	73.74	-10.81	-59.92							
2,500.00	2,200.12	2,200.11	2,200.00	-1.00			,								
2,400.00	2,392.83	2,394.37	2,389.54	5.28	5.28	89.84	-12.58	-80.57	32.26	3 21.73	10.53	3.063			
2,500.00			2,484.80	5.66	5.61	99.94	-14.70	-105.27	44.48	33.26	11.22	3,963			
2,600.00			2,578.67	6.12	5.99	106.19	-17.16	-133.95	59.68	47.67	12.01	1 4.968			
2,700.00			2,670.96	6.69	6.45	110.17	-19.95	-166.51		64,59	12.93	5.994			
2,800.00			2,761.50	7.36	7.00	112.78	-23.07	-202.85				1 6.982			
2,000.00	2,702.0	2,700.00	2,707,00	, ,,,,,											
2,859.86	3 2,814.8	1 2,844.81	2,814.78	7.82	7.36	113.91	-25.09	-226.37	111.04	96.32	14.72	7.542			
2,900.00			2,850.29		7.62	114.79	-26.47	-242.54	120.2	1 104.97	15.25	7.885			
3,000.00						116.48	-29.93	-282,83	143.14	126.54	16.60	8,621			
3,100.00			3,027.21			117.71	-33.38	-323.12				9.218			
3,200.00			3,115.67	10.82		118.64	-36.84	-363.40							
0,200.00	2,100.00	. U, 11 U.U-T	5, . 10.51		/				· · · · · · · · · · · · · · · · · · ·						
3,300.00	3,196.00	3,272.90	3,204.13	11.76	10.50	119.37	-40.29	-403.69	212.33	3 191.32	2 21.0	1 10.107			
3,400.00			3,292.58			119.95	-43.74	-443.98	235.46	3 212.9	1 22.55	10.441			
3,500.00			-			120,43	-47.20	-484.27	258.62	2 234.50	24.12	2 10.722			
3,600.00			3,469.50				-50.65	-524.55				1 10.960			
3,700.00						121.18	-54,10	-564.74							
0,,00.00	0,0-2.42	_ 5,551.20	J,557,50	,0.00	, 2, 30										
3,800.00	0 3,629.00	3,757.18	3,645.57	16.69	14.29	121.90	-57.30	-602.01	328.4	3 299.79	28.69	9 11.448			
3,900.0							-60.16	-635.36			3 29.92	2 11.787			
3,960.7							-61.73	-653,68							
4,000.0							-62.68	-664.76							
							-64.88	-690.45							
4,100.0	0 3,891.2	3 4,039.12	3,912.98	19.42	15.60	121.10	-04,00	-000.40	00.5	. 555.10	- 01.0	,2,002			
4 000 0	0 3 000 4	1 420 50	4,003.79	20.11	16.20	128.98	-66.77	-712.48	422.3	6 389.8	1 32.5	12.975	;		
4,200.0							-68.34	-730.75							
4,300.0								-745.30							
4,400.0							-69.58								
4,500.0							-70.51	-756.09							
4,600.0	0 4,364.5	9 4,505.52	4,372.84	22.13	17.27	134.52	-71.11	-763.1	1 486.6	0 452.2	1 34.3	9 14.148			



#### Weatherford International Ltd.

Anticollision Report



Company: Project:

ANADARKO PETROLEUM CORP. UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

Reference Site:

ANADARKO 1022-32C PAD

Site Error:

0.00ft

Reference Well:

NBU 1022-32D4AS

Well Error:

0.00ft

Reference Wellbore NBU 1022-32D4AS

Reference Design: Design #1

Local Co-ordinate Reference:

**TVD Reference:** 

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev) WELL @ 5467.00ft (Original Well Elev)

MD Reference:

North Reference:

**Survey Calculation Method:** 

Output errors are at

Offset TVD Reference:

Database:

Minimum Curvature 2.00 sigma

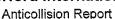
EDM 2003.21 Single User Db

Offset Datum

ffset D	esign gram: 0-M		RKO 10	22-32C PA	D - NB	U 1022-32	D1S - NBU	1022-32D1					Offset Site Error: Offset Well Error:	0.00 ft 0.00 ft
Refer		Offse	et .	Semi Major	Axis				Dista	ance				
easured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellt +N/-S (ft)	ore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
		4,530,86	4,398.14	22.22	17.31	134.83	-71.22		489,67	455.22	34,45	14.215		
,627.26	4,391.40	4,600.00	4,467.25	22.44	17.41	135.64	-71.39		497.04	462,48		14.380		
,700.00	4,463.26			22.44	17.52	136.60	-71.4		504.90	470.25		14.574		
,800.00	4,562.64	4,695.39	4,562.64		17.64	137.14	-71.4 -71.4		509.13	474.36		14.645		
,900.00	4,662,46	4,795.21	4,662,46	22.84	17.72	15.19	-71.4 -71.4		509.83			14.627		
,960.59 ,000.00	4,723.04 4,762.45	4,855.80 4,895.20	4,723.04 4,762.45	22.91 22.94	17.72	15.19	-71.4 -71.4		509.83	474.88		14.587		
	4,862.45	4,995.20	4,862.45	23.04	17.90	15.19	-71.4	1 -766.63	509.83	474.63	35.20	14.483		
,100.00	4,962.45	5,095.20	4,962.45	23.13	18.02	15.19	-71.4		509.83					
5,200.00				23.23	18.15	15.19	-71.4		509.83					
5,300.00	5,062.45	5,195.20	5,062.45	23.23	18.29	15.19	-71.4		509.83			14.168		
5,400.00 5,500.00		5,295.20 5,395.20	5,162.45 5,262.45	23.43	18.42	15.19	-71.4 -71.4		509.83			14.063		
		5.495.20	5,362.45	23.54	18.56	15.19	-71.4	1 -766.63	509.83	473,31	36.52	13.959		
5,600.00			*	23.64	18.70	15.19	-71.4		509,83					
5,700.00		5,595.20	5,462.45			15.19	-71.4 -71.4		509.83					
.800.00		5,695.20	5,562.45	23.75	18,83 18,98	15.19	-71.4 -71.4		509.83					
5,900.00 5,000.00		5,795.20 5,895.20	5,662.45 5,762.45	23.86 23.97	19,12	15.19	-71.4 -71.4		509.83					
		5,995,20	5,862.45	24.08	19.26	15.19	-71.4	1 -766.63	509.83	471.90	37.93	13,440		
,100.00						15.19	-71.4		509.83					
5,200.00		6,095.20	5,962.45	24.20	19.41		-71.4							
3,300.00	•	6,195.20	6,062.45	24.31	19.56	15.19			509.83					
6,400.00		6,295,20	6,162.45	24.43	19.70	15.19	-71.4							
6,500.00	6,262.45	6,395.20	6,262.45	24.55	19.85	15.19	-71.4	1 -766.63	509.83	470.72	39.12			
6,600.00	6,362.45	6,495.20	6,362.45	24.67	20.01	15.19	-71.4	1 -766.63						
6,700.00		6,595.20	6,462.45	24.79	20,16	15.19	-71.4	1 -766.63	509.83	470.1	1 39.72	12.834		
6,800.00		6,695.20	6,562.45	24.91	20.31	15.19	-71.4	1 -766.63	509.83	469.80	40.03	12.735		
6,900.00		6,795.20	6,662.45	25.03	20.47	15,19	-71.4	1 -766.63	509,83	469.49	40.34	12.637		
7,000.00		6,895.20	6,762.45	25.16	20.62	15.19	-71.4	1 -766.63	509,83	469.17	40.66	12.539		
7,100.00	6.862.45	6,995.20	6,862.45	25.29	20.78	15.19	-71.4	1 -766.63	509.83	468.86	40.97	12.443		
7,100.00 7,200.00			6,962.45	25.41	20.94	15.19	-71.4		509.83	468,54	41.29	12.347		
			7,062.45	25.54	21.10		-71.4			468.22	2 41.6	1 12.251		
7,300,00			7,162,45	25.67	21.26		-71.4							
7,400.00 7,500.00			7,262.45	25.81	21.43	15.19	-71.4							
	7.000.45	7.405.00	7 000 45	25.94	21.59	15.19	-71.4	1 -766,63	509.83	3 467.24	42.59	11,970		
7,600.00			7,362.45				-71.4							
7,700.00			7,462.45	26.07	21.76									
7,800.00			7,562.45	26.21	21.92		-71.4							
7,900.00			7,662.45 7,762.45	26.35 26.48	22.09 22.26		-71.4 -71.4							
							-71.4			3 465.57	7 44.26	3 11.518		
8,100.00			7,862.45	26.62	22.43		-71.4 -71.4							
8,200.00					22.60									
8,300.00				26.91			-71.4							
8,400.00					22.94 23.11		-71.4 -71.4							
												9 11.087	,	
8,600,0							-71.×							-
8,700.0							-71.							
8,737.5	5 8,500.00	8,632.75	8,500.00	27.54	23.53	15.19	-71.	41 -766.63	509.8	3 463.3	6 46.4	7 10.972		









Company: Project:

ANADARKO PETROLEUM CORP. UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

Reference Site:

ANADARKO 1022-32C PAD

Site Error: Reference Well: 0.00ft

NBU 1022-32D4AS

Well Error:

0.00ft

Reference Wellbore NBU 1022-32D4AS

Reference Design: Design #1

Local Co-ordinate Reference:

**TVD Reference:** 

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev)

MD Reference:

WELL @ 5467.00ft (Original Well Elev)

North Reference:

Minimum Curvature

**Survey Calculation Method:** Output errors are at

Database:

2.00 sigma

EDM 2003.21 Single User Db

Offset TVD Reference: Offset Datum

ffset Do			ARKO 10	22-32C PA	M - NB	U 1022-32I	J4US -	NRU	1022-321	4U3 - D6	sign#1				Site Error:	0.00 ft
	gram: 0-M			Somi Maio	· Δvie					Dief	ance			Offset V	Well Error:	0.00 ft
	Vertical	Offs Measured	Vertical	Semi Major Reference	Offset	Highside Toolface			e Centre +E/-W	Between Centres		Minimum Separation	Separation Factor		Warning	
epth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	F 1	+E/-VV (ft)	(ft)	(ft)	(ft)				
0.00	0.00	0.00	0.00	0.00	0.00	68,83	• • •	7.27	18.78	20.14						
100,00	100.00	100.00	100.00	0.09	0.09	68.83		7.27	18.78	20.14		0.18	109.256			
200.00	200.00	200.00	200.00	0.32	0.32	68.83		7.27	18.78	20.14						
		300.00	300.00	0.54	0.52	68,83		7.27	18.78	20.14						
300.00	300.00			0.77	0.77	68.83		7.27	18.78	20.14						
400.00	400.00	400.00	400.00		0.77			7.27	18.78	20.14						
500.00	500.00	500.00	500.00	0.99	0.99	68,83		1.21	10,70	20.14	. 10.10	1,00	10.100			
600.00	600.00	600.00	600.00	1.22	1.22	68.83		7.27	18.78	20,14	17.70	2.43	8.280			
700.00		700.00	700.00	1,44	1.44	68.83		7.27	18.78	20.14	17.26	2.88	6.988			
800.00	800.00	800.00	. 800.00	1.67	1.67	68.83		7.27	18.78	20.14	16,81	3.33	6.045			
900.00	900.00	900.00	900.00	1.89	1.89	68.83		7.27	18.78	20.14			5.326			
		1,000.00	1,000.00	2.12	2.12	68.83		7.27	18.78	20.14						
1,000.00	1,000.00	1,000.00	1,000.00	4.14	2.12											
1,100.00	1,100.00	1,100.00	1,100.00	2,34	2.34	68.83		7.27	18,78	20.14	15.46	4.68	4.303			
1,200.00			1,200.00	2,56	2.56	68,83		7.27	18.78	20,14	15.01	5.13	3,926			
			1,300.00	2.79	2.79	68.83		7.27	18.78	20.14						
1,300.00			1,400.00	3.01	3.01	68.83		7.27	18.78	20.14						
1,400.00				3.24	3.24	68.83		7.27	18.78	20.14						
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	30.03			10.70			5, 10				
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	68.83		7.27	18.78	20.14	13.21	6.93	2.907			
			1,700.00	3.69	3.69	68.83		7.27	18.78	20.14						
1,700.00	-				3.91	68.83		7.27	18.78	20.14						
1,800.00			1,800.00					7.27	18.78	20.14				CC		
1,860.00			1,860.00		4.05	68.83			18.48	20.12						
1,900.00	1,900.00	1,900.39	1,900.39	4.13	4.13	-168.86		6.97	10,48	20,10	. 11.9	0,20	4.772			
2 000 00	1,999.87	2,001.35	2,001.22	4,31	4.31	-165.92		3.57	15.09	20.47	7 11.87	7 8.60	2,380	ES, SF		
2,000.00			2,101.63			-160.05		-3,60	7.94	21.29						
2,100.00					4.71	-152.06		-14.50	-2.93	22.92						
2,200.00			2,201.31						-17.49	25.68						
2,300.00			2,299.95			-143.16		-29.10 47.35	-17.49 -35.68	29.8						
2,400.00	2,392.83	3 2,404.63	2,397.28	5.28	5.26	-134.58		-47.35	-30,08	∠5.01	19.50	. 10,22	. 2.010			
0.500.00		2,505.19	2,492.99	5.66	5.63	-127.11		-69.17	-57.44	35.3	7 24.44	10.93	3 3.237			
2,500.00						-120.96		94.49	-82.69							
2,600.00						-120.90		123.22	-111.34							
2,700.00						-112.16		155.26	-143.29							
2,800.00									-163.29							
2,859,86	2,814.8	1 2,865.77	2,819.92	7.82	7.75	-110.22	-	175.96	-100.93	00.0	J 1,40	. 10.21	- 4.010			
0.000.00	2 2 2 4 2 5	7 2005 65	2,854.46	8.15	8.06	-109.29		190.08	-178.01	71.0	7 55,19	9 15.89	9 4.474			
2,900.00								-225.26	-213.09							
3,000.00																
3,100.00								-260.45	-248.18							
3,200.00								295.63	-283.26							
3,300.00	3,196.00	3,303.07	3,198.62	11.76	11.52	-103.96	-	-330.81	-318.34	115.6	3 92.6	4 22.93	a.029			
		0.400.40	2 204 22	40.70	12.44	103 24		-365.99	-353.42	126.8	6 101.9	8 24.8	8 5,099	)		
3,400.00	•															
3,500.00								401.18	-388.51							
3,600.00	0 3,455.8							-436.36	-423,59							
3,700.00	0 3,542.4	2 3,700.49	3,542.78					-471.54	-458.67							
3,800.00	0 3,629.0	3 3,799.85	3,628.82	2 16.69	16.24	-101.20	-	-506.73	-493.75	171.9	1 139.2	9 32.6	51 5.271	I .		
								F44 0:		400.4	0 440 0	1 34.5	8 5.297	,		
3,900.00								-541.91	-528.83							
3,960.74	4 3,768.2	4 3,959.55						-563.28	-550.14							
4,000.00			3,800.90					-577.09	-563.92							
4,100.00			3,886.89	9 19.42	19.15	-99.31		-612.25	-598.98							
4,200.00					1 20.12	-96.84		-647.30	-633.92	214.9	2 174.9	91 40.0	)1 5.372	2		
.,	.,											·				
4,300.00	0 4,075.5	4 4,295.19	4,057.78	3 20.72	2 21.10			-682.13	-668.66							
4,400.0			4,142.2	2 21.27	22,06	-88.96		-716.66	-703.09							
					23.02	-83.99		-750.79	-737.12							
4,500.0						-78.67		704 42	-770.66	265.4	7 221.3	0 44.1	7 6.01	1		
4,500.0	0 4,364.5	9 4,584.08	3 4,307.9	4 22.13	3 23.97	-/0.0/		-784,42	-110.00	, 200	. 221.0	3 44.2				









Company: Project:

ANADARKO PETROLEUM CORP. UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

Reference Site: Site Error:

ANADARKO 1022-32C PAD

Reference Well: Well Error:

0.00ft

NBU 1022-32D4AS

0.00ft

Reference Wellbore NBU 1022-32D4AS

Reference Design: Design #1 Local Co-ordinate Reference:

**TVD Reference:** 

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev) WELL @ 5467,00ft (Original Well Elev)

MD Reference:

North Reference:

**Survey Calculation Method:** 

Output errors are at

Offset TVD Reference:

Database:

Minimum Curvature

2.00 sigma

EDM 2003.21 Single User Db

Offset Datum

	gram: 0-M								in the second		Market .		Offset Well Error:	0.00 ft
Refer		Offse		Semi Major			merca da la cale		Dista		131-dailean	Camanation		
asured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellb +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
11.00	1.7		1811					. 13.			1 - Ni - H	0.470		
700.00	4,463.26	4,677.40	4,388.77	22.44	24.90	-73.27	-817.47	-803.61	285.66	241.51	44.15	6.470		
,800.00	4,562.64	4,768.82	4,467.94	22.68	25.81	-68.01	-849.85	-835.90	310.63	266,90	43.73	7.104		
900,00	4,662.46	4,865.68	4,552.31	22.84	26,69	-62.74	-883.53	-869.48	340.30	297.44	42.87	7,939		
960.59	4,723.04	4,928.06	4,607.78	22.91	27.18	178.22	-903.72	-889.61	359.43	317.24	42.19	8.520		
00.000	4,762.45	4,969.40	4,645.05	22.94	27.46	-179.66	-916.39	-902,25	371.97	330.34	41.63	8.935		
100.00	4,862.45	5,078.11	4,744.81	23.04	28.15	-175.15	-946.96	-932.73	402.48	362.06	40.42	9.958		
200.00	4,962.45	5,192.00	4,851.77	23,13	28.79	-171.68	-974.62	-960,31	430.04	390.54	39.50	10,887		
300.00	5,062,45	5,310.57	4,965.39	23.23	29.35	-169.07	-998.57	-984.19	453.67	414.80	38,87	11.672		
400.00	5,162,45	5,433,15	5,084.83	23.33	29.82	-167.18	-1,018.03	-1,003.60	472.62	434.13	38,49	12.279		
,500.00	5,262.45	5,558.90	5,208.93	23.43	30.19	-165.91	-1,032.31	-1,017.84	486,37	448.03	38.34	12.687		
600.00	5,362.45	5,686.82	5,336.26	23.54	30.45	-165.19	-1,040.88	-1,026.39	494,53	456.16	38.38	12.886		
5,700.00	5,462.45	5,813.09	5,462.45	23.64	30.60	-164,99	-1,043.41	-1,028.91	496.94	458.35	38.59	12.879		
5,800.00		5,913.09	5,562.45	23.75	30.67	-164.99	-1,043.41	•	496.94	458.10		12.796		
	•			23.75	30.75	-164.99	-1,043,41		496.94	457.85		12,711		
,900.00		6,013.09	5,662.45	23.00	30.75	-164.99	-1,043.41		496.94	457.58		12.627		
00.000,8		6,113.09	5,762.45				-1,043.41		496.94	457.32		12.527		
5,100.00	5,862.45	6,213.09	5,862.45	24.08	30,92	-164.99	-1,043,41	-1,020.91						
,200.00	5,962.45	6,313.09	5,962.45	24.20	31.00	-164.99	-1,043.41		496.94	457.05		12.459		
300.00		6,413.09	6,062.45	24.31	31.08	-164.99	-1,043.41	-1,028.91	496.94	456.78				
400.00			6,162.45	24.43	31.17	-164.99	-1,043.41	-1,028.91	496.94	456.51	40.43	12.291		
6,500.00		6,613.09	6,262,45	24.55	31.26	-164.99	-1,043.41	-1,028.91	496.94	456.23	40.71	12.207		
6,600.00			6,362.45	24.67	31.35	-164.99	-1,043.41		496.94	455.95	40.99	12.123	•	
6,700.00	6,462,45	6,813.09	6,462,45	24.79	31.44	-164,99	-1,043.41	-1,028.91	496.94	455.67	41.27	12.040		
			6,562.45	24,91	31.53	-164.99	-1,043.41		496.94					
6,800.00		,	•		31.62	-164.99	-1,043.41		496.94					
6,900.00			6,662.45	25.03			-1,043.41		496.94					
7,000.00			6,762.45 6,862.45	25.16 25.29	31.72 31.81	-164.99 -164.99	-1,043.41		496.94					
7,100.00	0,002.45	1,213.09	0,002.40	25,25										
7,200.00	6,962.45	7,313.09	6,962.45	25.41	31.91	-164.99	-1,043.4		496.94					
7,300.00	7,062.45	7,413.09	7,062.45	25.54	32.01	-164.99	-1,043.41		496.94					
7,400.00	7,162.45	7,513.09	7,162.45	25.67	32.11	-164.99	-1,043.41		496.94					
7,500.00			7,262.45	25.81	32.21	-164.99	-1,043.4		496.94					
7,600.00			7,362.45	25.94	32.31	-164.99	-1,043.4	1 -1,028.91	496.94	452.99	43.95	11.307		
7,700.00	7,462,45	7,813.09	7,462.45	26.07	32.41	-164.99	-1,043,4	1 -1,028.91	496.94	452.68	44.26	11.228		
7,800.00			7,562,45	26.21	32.52	-164.99	-1,043.4							
			7,662.45	26.35	32,62	-164.99	-1,043,4		496.94					
7,900.00		•	7,762,45	26.48	32.73	-164.99	-1,043.4							
8,000.00			7,762,45	26.62	32.84	-164.99	-1,043.4							
8,100.00	7,862.45	8,213.09	7,002,40											
8,200.00			7,962.45	26.76	32.95	-164.99	-1,043.4							
8,300,00			8,062,45	26.91	33.06	-164.99	-1,043.4							
8,400.00			8,162.45	27.05	33.17	-164.99	-1,043.4							
8,500.00	8,262.45	8,613.09	8,262.45	27.19	33.28	-164.99	-1,043.4							
8,600.00	8,362.45	8,713.09	8,362.45	27.34	33.40	-164.99	-1,043.4	1 -1,028.91	496.94	449.79	47.1	10.539		
8,700.00	8,462.45	8,813.09	8,462.45	27.48	33,51	-164.99	-1,043.4	1 -1,028.91	496.94	449.4	3 47.4	10,466		
8,737.55			8,500.00	27.54	33.56	-164.99	-1,043.4			449.3	3 47.6	1 10.438		



#### Weatherford International Ltd.

Anticollision Report



Company: Project:

ANADARKO PETROLEUM CORP. UINTAH COUNTY, UTAH (UTM Zone

12N-NAD 27)

Reference Site:

ANADARKO 1022-32C PAD

Site Error:

Well Error:

Reference Well:

0.00ft NBU 1022-32D4AS

0.00ft

Reference Wellbore NBU 1022-32D4AS

Reference Design: Design #1

Local Co-ordinate Reference:

**TVD Reference:** 

MD Reference:

North Reference:

Survey Calculation Method:

Output errors are at

Database:

Offset TVD Reference:

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev)

WELL @ 5467.00ft (Original Well Elev)

Minimum Curvature

2.00 sigma

EDM 2003.21 Single User Db

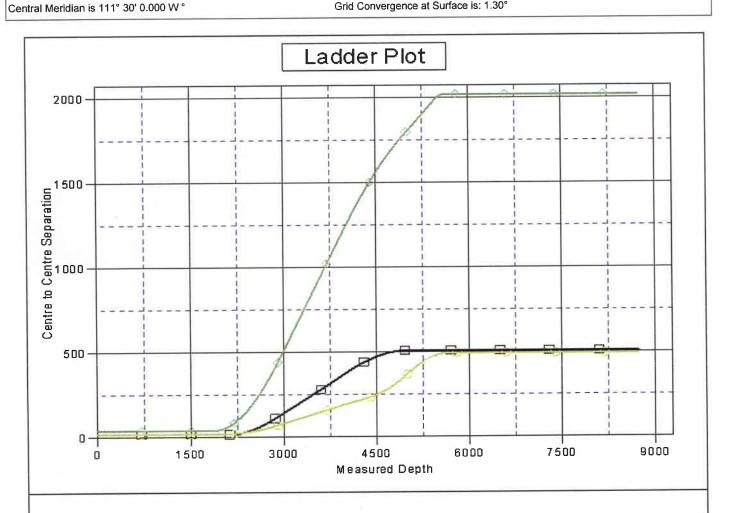
Offset Datum

Reference Depths are relative to WELL @ 5467.00ft (Original Well Ele\Coordinates are relative to: NBU 1022-32D4AS

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302

Grid Convergence at Surface is: 1.30°



LEGEND

12‡-32 B3 S, NB U 1022-32 B3 S, Design #1 ∨0 👍 NB U 1022-32 D1 S, NB U 1022-32 D1 S, Design #1 ∨0 → NB U 1022-32 D4 DS, NB U 1022-32 D4 D



#### Weatherford International Ltd.

Anticollision Report



Company: Project:

ANADARKO PETROLEUM CORP.

UINTAH COUNTY, UTAH (UTM Zone 12N-NAD 27)

Reference Site:

ANADARKO 1022-32C PAD

Site Error:

0.00ft

Reference Well:

NBU 1022-32D4AS

Well Error:

0.00ft

Reference Wellbore NBU 1022-32D4AS Reference Design: Design #1

Local Co-ordinate Reference:

TVD Reference:

Well NBU 1022-32D4AS

WELL @ 5467.00ft (Original Well Elev) WELL @ 5467.00ft (Original Well Elev)

MD Reference:

North Reference:

Minimum Curvature

**Survey Calculation Method:** 

Output errors are at

2.00 sigma

Database: Offset TVD Reference: EDM 2003.21 Single User Db

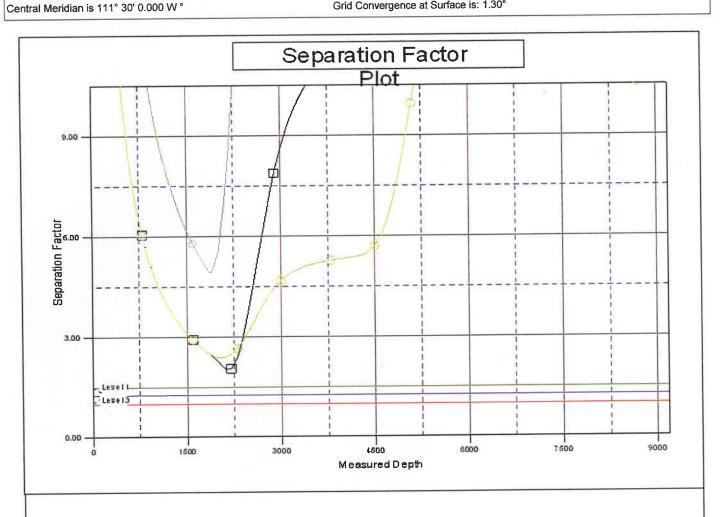
Offset Datum

Reference Depths are relative to WELL @ 5467.00ft (Original Well Ele\Coordinates are relative to: NBU 1022-32D4AS

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1927 (Exact solution), Utah Central 4302

Grid Convergence at Surface is: 1.30°



LEGEND

122-32835, NBU 1022-32835, Design #1 VO 🖶 NBU 1022-32D15, NBU 1022-32D15, Design #1 VO 🤲 NBU 1022-32D4D5, NBU 1022-32D4D

## Kerr-McGee Oil & Gas Onshore LP NBU #1022-32B3S, #1022-32D4DS, #1022-32D4AS & #1022-32D1S SECTION 32, T10S, R22E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 11.2 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE EAST; TURN LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION APPROXIMATELY 9.6 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 0.8 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 0.15 MILES TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 52.75 MILES.

# Kerr-McGee Oil & Gas Onshore LP NBU #1022-32B3S, #1022-32D4DS,

#1022-32D4AS & #1022-32D1S LOCATED IN UINTAH COUNTY, UTAH **SECTION 32, T10S, R22E, S.L.B.&M.** 

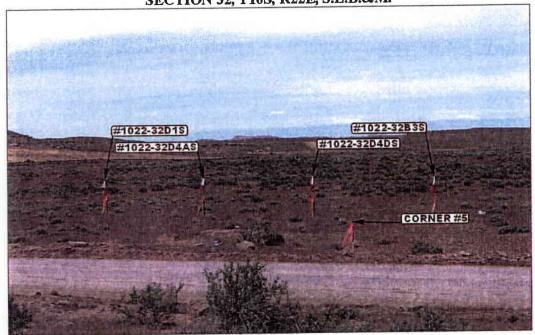


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHWESTERLY

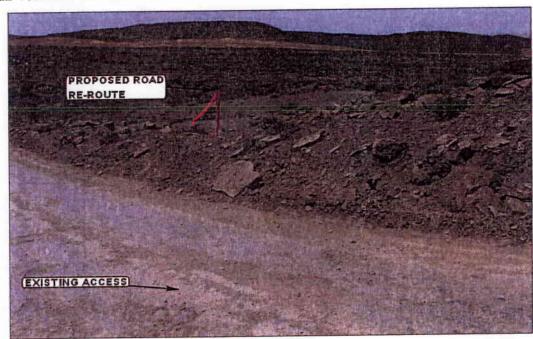


PHOTO: VIEW FROM BEGINNING OF PROPOSED ROAD RE-ROUTE

CAMERA ANGLE: NORTHWESTERLY



MONTH DAY YEAR TAKEN BY: D.K. | DRAWN BY: Z.L. | REVISED: 00-00-00

## Kerr-McGee Oil & Gas Onshore LP

NBU #1022-32B3S, #1022-32D4DS, #1022-32D4AS & #1022-32D1S

LOCATED IN UINTAH COUNTY, UTAH SECTION 32, T10S, R22E, S.L.B.&M.

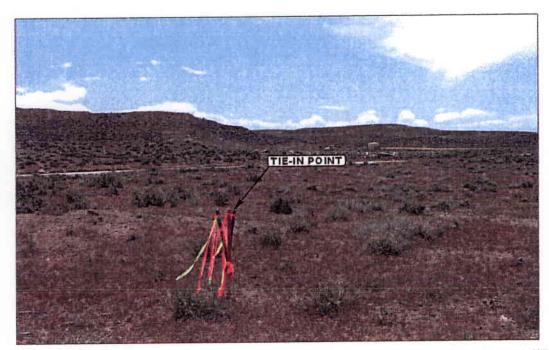
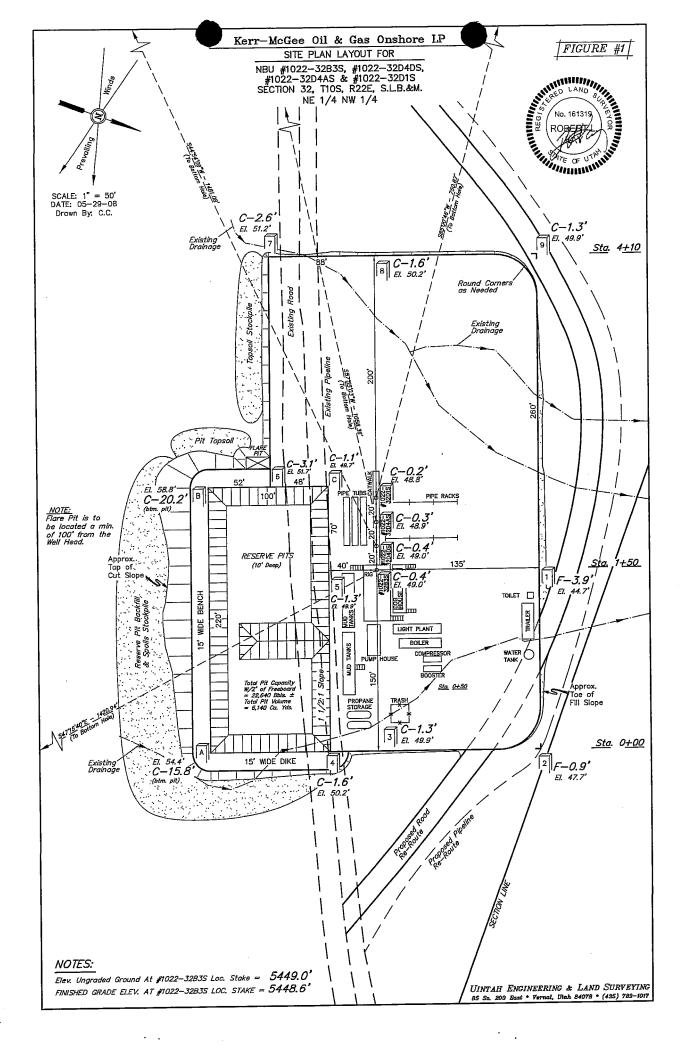


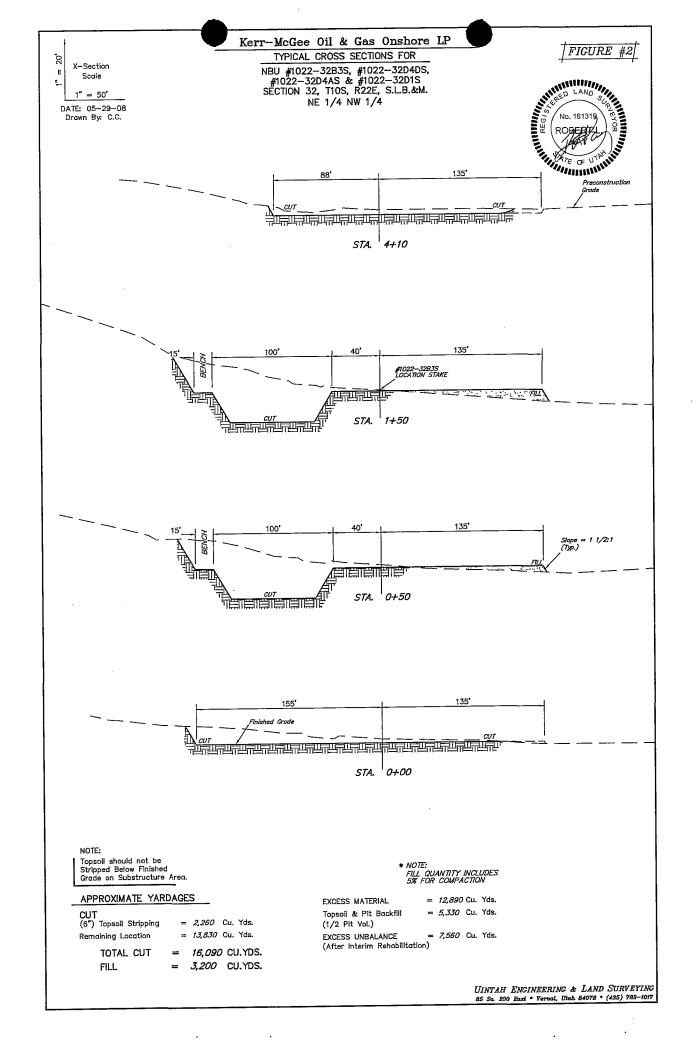
PHOTO: VIEW OF TIE-IN POINT

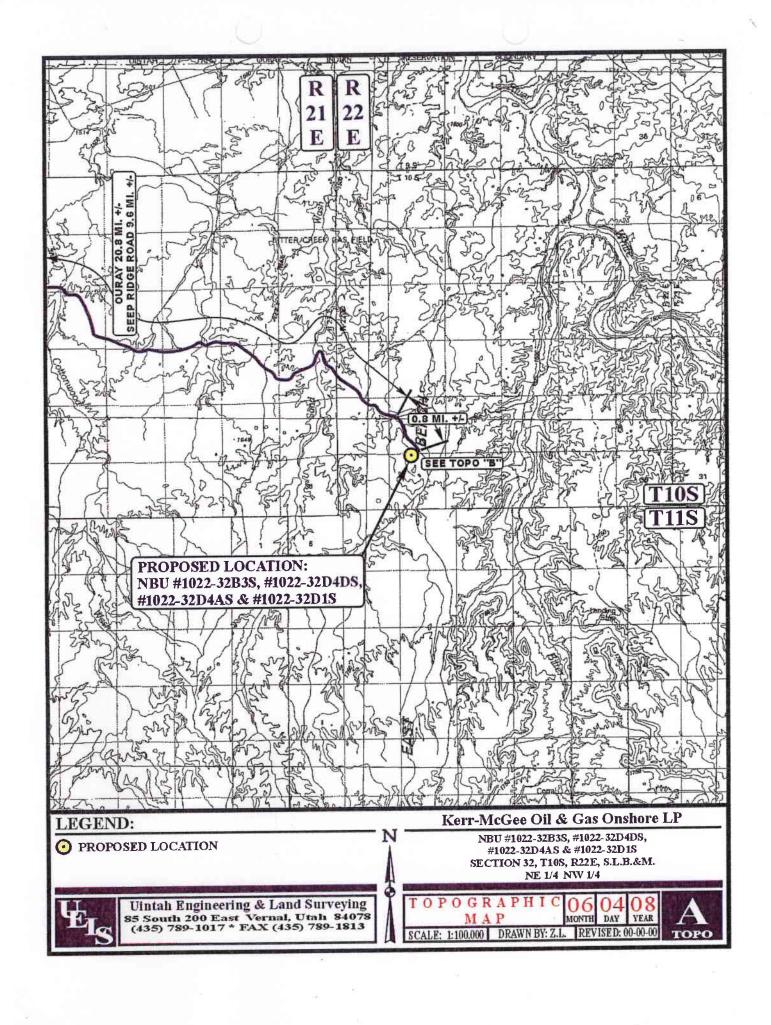
CAMERA ANGLE: SOUTHWESTERLY

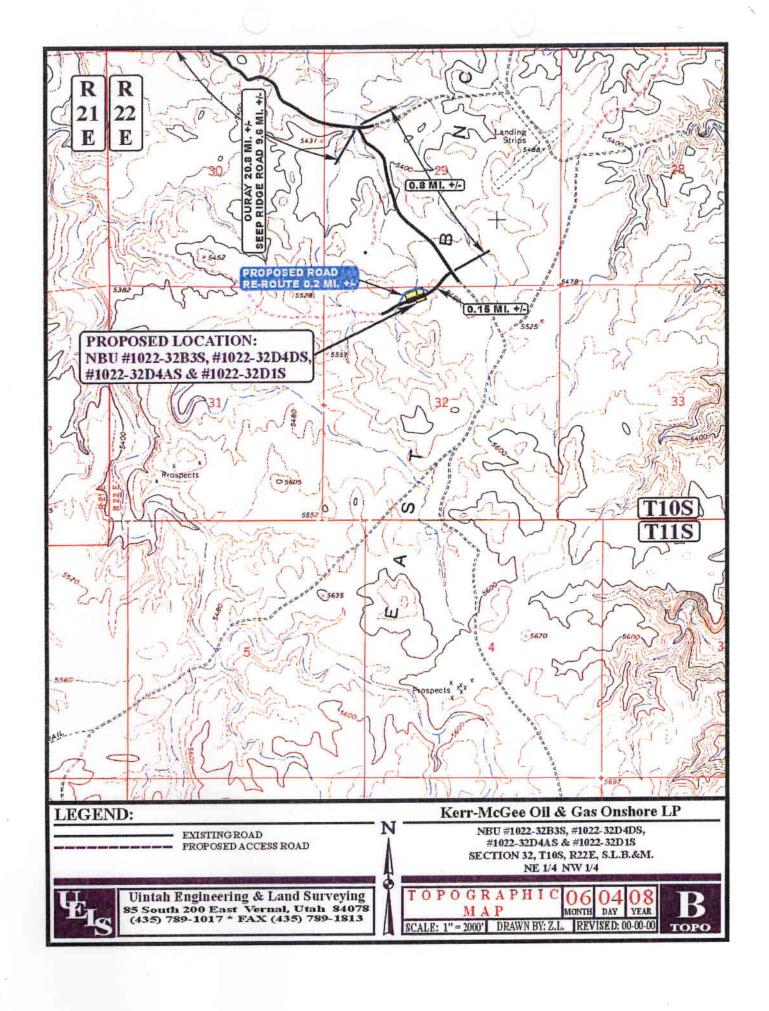


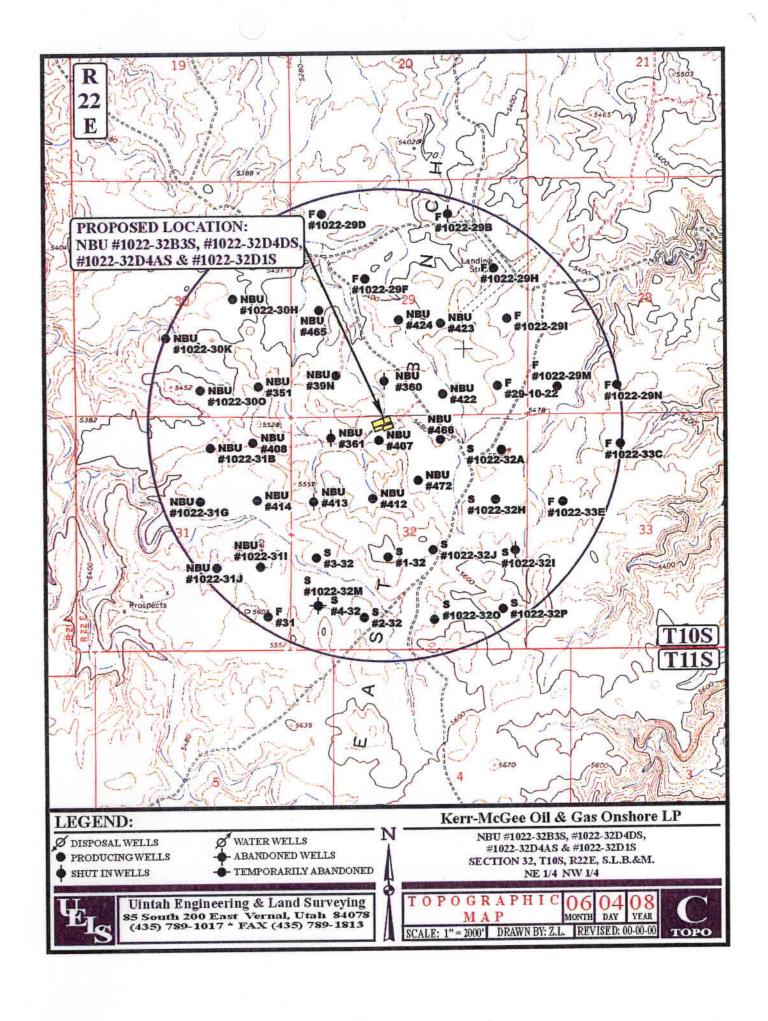


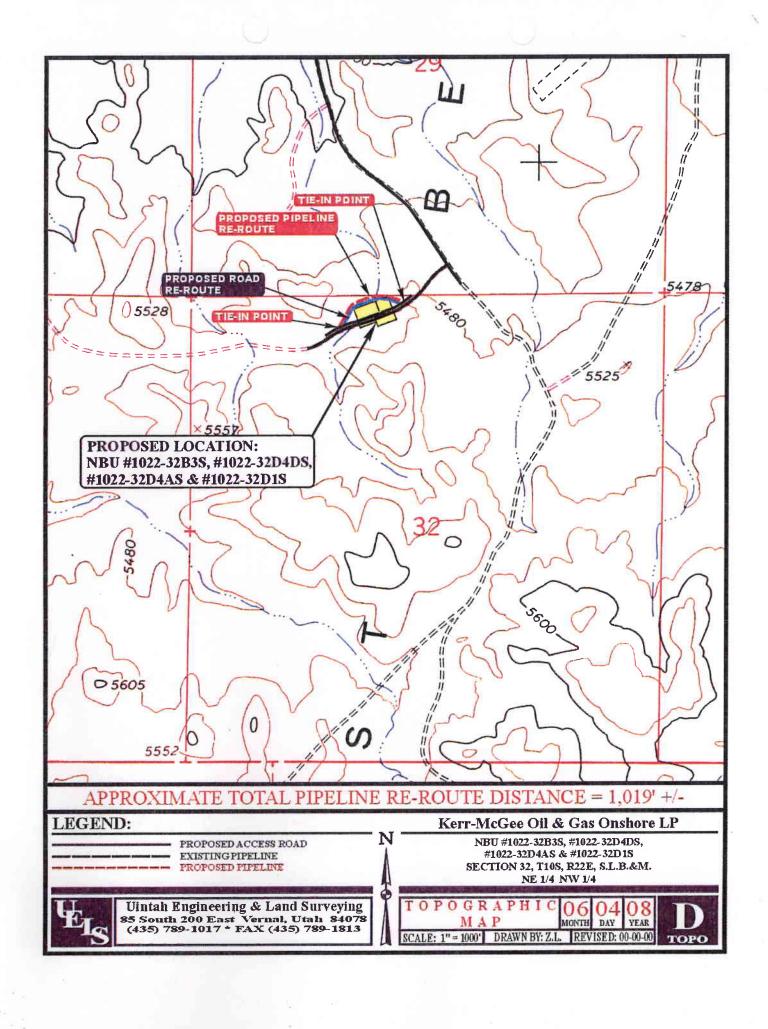




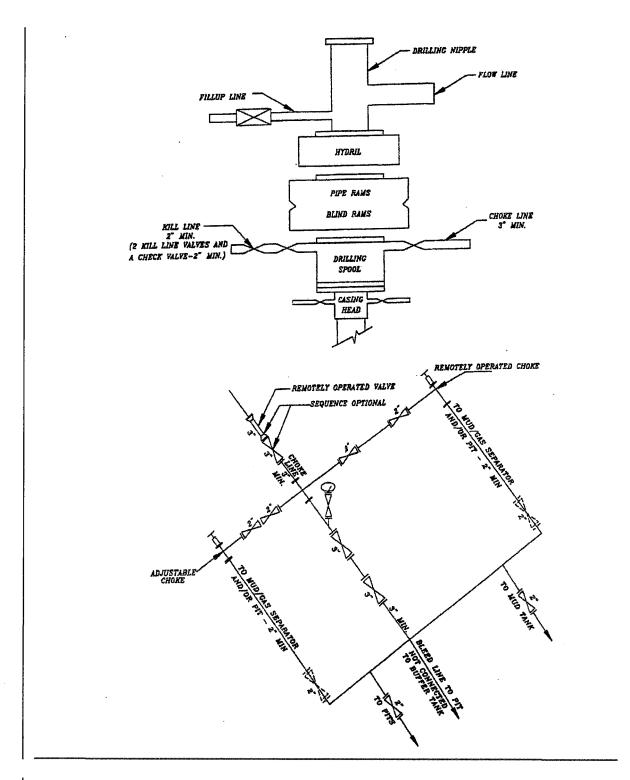




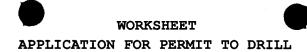




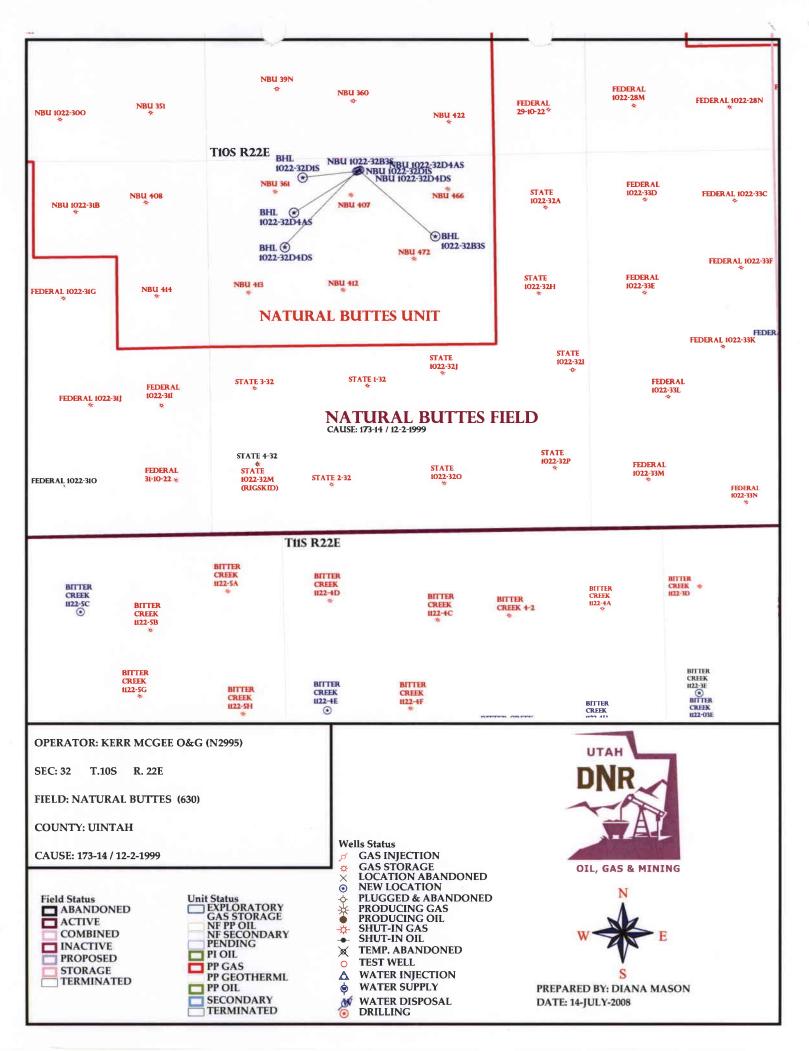
#### **EXHIBIT A**



**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK** 



APD RECEIVED: 07/08/2008		API NO. ASSI	GNED: 43-04	7-40205
WELL NAME: NBU 1022-32D4AS				
OPERATOR: KERR-MCGEE OIL & GAS ( N2995 )		PHONE NUMBER:	720-929-622	26
CONTACT: KEVIN MCINTYRE				
PROPOSED LOCATION:		INSPECT LOCATE	N BY: /	/
NENW 32 100S 220E SURFACE: 0198 FNL 2077 FWL		Tech Review	Initials	Date
BOTTOM: 0760 FNL 1180 FWL		Engineering	DRD	9/16/08
COUNTY: UINTAH		Geology		
LATITUDE: 39.91201 LONGITUDE: -109.4647  UTM SURF EASTINGS: 631228 NORTHINGS: 44189	910	Surface		
FIELD NAME: NATURAL BUTTES ( 630	)	<u> </u>		
LEASE TYPE: 3 - State  LEASE NUMBER: ST ML 22798  SURFACE OWNER: 3 - State		PROPOSED FORMA		IVD
RECEIVED AND/OR REVIEWED:	LOCATI	ON AND SITING:		
✓ Plat	F	R649-2-3.		
Bond: Fed[] Ind[] Sta[] Fee[]				
(No. 22013542 )	Unit:_	NATURAL BUTTES	·	
Notash (Y/N)		R649-3-2. Gene:		
<u>√</u> Oil Shale 190-5 (B) or 190-3 or 190-13	ì	Siting: 460 From Q	1 1111 111	Between Wells
Water Permit	F	R649-3-3. Exce	ption	
(No. 43-8496 )		Prilling Unit		
NDCC Review (Y/N) (Date: )		Board Cause No	: 173.	-14
		Eff Date:	12-	11999
<u></u>		Siting: 400 h	ubang & u	ncomm. True
NAM Intent to Commingle (Y/N)	F	R649-3-11. Dire	ectional Dri	.11
COMMENTS: Lecco Pro	sito (a	0-18-08)		
STIPULATIONS: 1- STATES 2- OIL 3-SUMAGE	SHAL			
	3	- 011		



## Application for Permit to Drill Statement of Basis

8/20/2008

#### Utah Division of Oil, Gas and Mining

Page 1

APD No

API WellNo

Status

Well Type

**Surf Ownr** 

**CBM** 

870

43-047-40205-00-00

GW

S

No

Operator KERR-MCGEE OIL & GAS ONSHORE, L.P. Surface Owner-APD

Well Name NBU 1022-32D4AS

Unit

Field

UNDESIGNATED

Type of Work

Location

NENW 32 10S 22E S

198 FNL 2077 FWL GPS Coord (UTM) 631228E 4418910N

#### **Geologic Statement of Basis**

Kerr McGee proposes to set 1,800' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 3,400'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 32. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

**Brad Hill** 

**APD** Evaluator

8/20/2008

Date / Time

#### **Surface Statement of Basis**

This location is in the East Bench area of the Natural Buttes Unit approximately 20.8 road miles southeast of Ouray, Ut.. It is accessed by the Seep Ridge Road, Uintah County roads and existing or planned oil field development roads to within 0.2 mile of the site, which will require new or re-construction.

The general area is within an unnamed drainage between Sand Wash and Bitter Creek. This un-named wash drains northerly to the White River a distance of approximately 7 miles. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws. This unnamed wash is an ephemeral drainage. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. The washes are sometimes rimed with steep side hills, which have exposed sand stone bedrock cliffs along the rims.

Four gas wells are proposed on this pad. The location is on the out-slope of a lower level bench. Higher benches and a ridge are to the south. The pad will be constructed by excavating into the toe of the slope to the south, with the fill moved to the north into an open wide swale. Drainages intersect the site on both the east and west. These drainages are planned for re-routing around the pad. The selected site has no apparent concerns for constructing a pad, drilling and operating the planned wells and is the best location in the immediate area.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA reviewed the site and had no concerns regarding the proposal.

Ben Williams of the Utah Division of Wildlife Resources was invited the pre-site visit and did not attend

Floyd Bartlett

6/18/2008

**Onsite Evaluator** 

Date / Time

# **Application for Permit to Drill Statement of Basis**

8/20/2008

## Utah Division of Oil, Gas and Mining

Page 2

#### Conditions of Approval / Application for Permit to Drill

Category

Condition

Pits

A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be

properly installed and maintained in the reserve pit.

Surface

Drainages adjacent to the proposed pad shall be diverted around the location.

Surface

The reserve pit shall be fenced upon completion of drilling operations.

#### Utah Division of Oil, Gas and Mining

Operator

KERR-MCGEE OIL & GAS ONSHORE, L.P.

Well Name

NBU 1022-32D4AS

**API Number** 

43-047-40205-0

**APD No** 870 **Tw** 10S

Field/Unit UNDESIGNATED

Location: 1/4,1/4 NENW

NTENNY

Sec 32 Tw

Rng 22E

198 FNL 2077 FWL

**GPS Coord (UTM)** 631211

4418923

**Surface Owner** 

#### **Participants**

#### Regional/Local Setting & Topography

This location is in the East Bench area of the Natural Buttes Unit approximately 20.8 road miles southeast of Ouray, Ut.. It is accessed by the Seep Ridge Road, Uintah County roads and existing or planned oil field development roads to within 0.2 mile of the site, which will require new or re-construction.

The general area is within an unnamed drainage between Sand Wash and Bitter Creek. This un-named wash drains northerly to the White River a distance of approximately 7 miles. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws. This unnamed wash is an ephemeral drainage. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. The washes are sometimes rimed with steep side hills, which have exposed sand stone bedrock cliffs along the rims.

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Both the surface and minerals are owned by SITLA.

#### Surface Use Plan

**Current Surface Use** 

Grazing

Recreational

Wildlfe Habitat

New Road

Miles Well Pad

**Src Const Material** 

**Surface Formation** 

0.2

Width 291

Length 350

Onsite

UNTA

Ancillary Facilities N

#### Waste Management Plan Adequate?

#### **Environmental Parameters**

Affected Floodplains and/or Wetland N

#### Flora / Fauna

Vegetation is a salt desert shrub type. Principal species present are cheatgrass, prickly pear, horsebrush, greasewood, bottle brush, globemallow, shadscale, Indian ricegrass, Russian thistle, halogeton, pepper grass and curly mesquite grass.

Cattle, antelope and small mammals and birds.

#### **Soil Type and Characteristics**

Soils are a shallow sandy loam with some exposed rock.

Erosion Issues N

Sedimentation Issues N

Site Stability Issues Y

#### Drainage Diverson Required Y

Drainages intersect the site on both the east and west. These drainages are planned for re-routing around the pad.

Berm Required? N

Erosion Sedimentation Control Required? N

Paleo Survey Run? Y Paleo Potental Observed? N Cultura

**Cultural Survey Run?** 

**Cultural Resources?** 

#### **Reserve Pit**

Site-Specific Factors		Site F	Ranking		
Distance to Groundwater (feet)	>200		0		
Distance to Surface Water (feet)	>1000		0		
Dist. Nearest Municipal Well (ft)	>5280		0		
Distance to Other Wells (feet)	<300		20		
Native Soil Type	Mod permeability		10		
Fluid Type	Fresh Water		5		
Drill Cuttings	Normal Rock		0		
<b>Annual Precipitation (inches)</b>	<10		0		
Affected Populations	<10		0		
<b>Presence Nearby Utility Conduits</b>	Not Present		0		
		<b>Final Score</b>	35	1	Sensitivity Level

#### Characteristics / Requirements

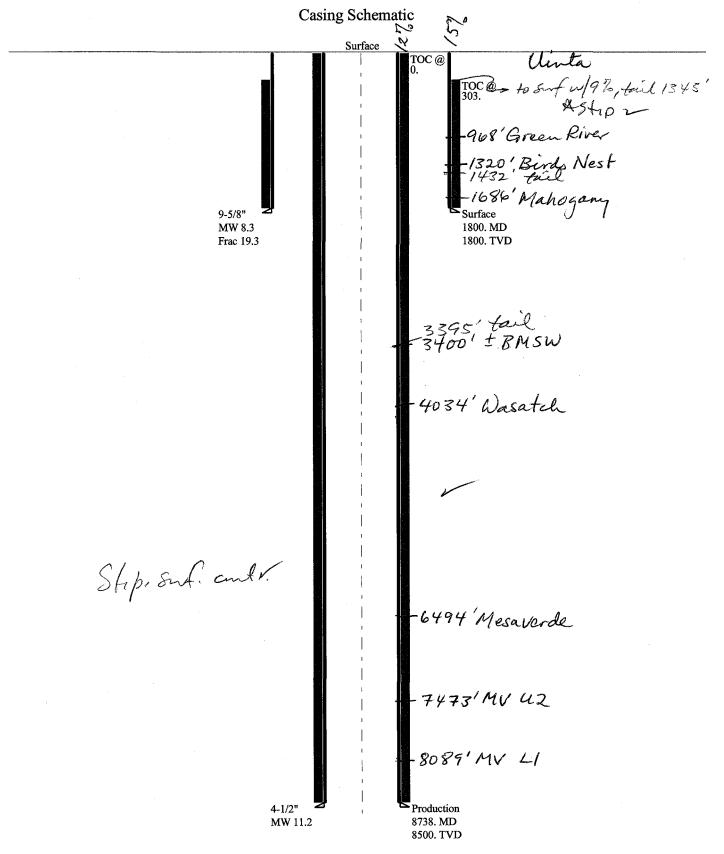
Closed Loop Mud Required? N Liner Required? Liner Thickness 16 Pit Underlayment Required? Y

#### Other Observations / Comments

Floyd Bartlett
Evaluator

6/18/2008 **Date / Time** 

## 43047402050000 NBU 1022-32DA4S



Well name:

43047402050000 NBU 1022-32DA4S

Operator:

Kerr McGee Oil & Gas Onshore L.P.

8.330 ppg

String type:

Surface

Project ID:

43-047-40205-0000

Location:

Mud weight:

Uintah County, Utah

Design parameters: Minimum design factors: Collapse

Collapse:

Design factor 1.125 **Environment:** 

H2S considered? Surface temperature:

No 75 °F 100 °F

Bottom hole temperature: Temperature gradient: 1.40 °F/100ft

Minimum section length: 1,300 ft

Burst:

Design factor

1.00 Cement top: 303 ft

**Burst** 

Max anticipated surface

No backup mud specified.

pressure: 1,584 psi Internal gradient: 0.120 psi/ft Calculated BHP 1,800 psi

Design is based on evacuated pipe.

Tension:

8 Round STC: 1.80 (J) 1.80 (J) 8 Round LTC:

Buttress:

Neutral point:

1.60 (J) Premium: 1.50 (J) Body yield: 1.50 (B)

Tension is based on buoyed weight.

1,578 ft

Completion type is subs

Non-directional string.

Re subsequent strings: Next setting depth:

Next mud weight: Next setting BHP:

8,500 ft 11.200 ppg 4,946 psi 19.250 ppg

Fracture mud wt: Fracture depth: Injection pressure:

1,800 ft 1,800 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	1800	9.625	36.00	J-55	LT&C	1800	1800	8.796	781.3
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	779	2020	2.593	1800	3520	1.96	57	453	7.97 J

Prepared

Helen Sadik-Macdonald by: Div of Oil, Gas & Minerals Phone: (801) 538-5357 FAX: (801) 359-3940

Date: September 15,2008 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 1800 ft, a mud weight of 8.33 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:

43047402050000 NBU 1022-32DA4S

Operator:

Kerr McGee Oil & Gas Onshore L.P.

String type:

Production

Project ID:

43-047-40205-0000

Location:

Uintah County, Utah

Design parameters:

**Collapse** Mud weight:

11.200 ppg

Design is based on evacuated pipe.

Minimum design factors:

Collapse: Design factor

1.125

**Environment:** 

H2S considered? Surface temperature: No 75 °F

Bottom hole temperature: Temperature gradient:

194 °F

Minimum section length: 1.500 ft

1.40 °F/100ft

**Burst:** 

Design factor

1.00

1.80 (J)

Cement top:

Surface

**Burst** 

Max anticipated surface

No backup mud specified.

pressure:

3,076 psi

Internal gradient: Calculated BHP

0.220 psi/ft 4,946 psi

8 Round LTC: **Buttress:** 

Premium:

Body yield:

Tension: 8 Round STC:

1.80 (J) 1.60 (J) 1.50 (J)

1.50 (B)

Completion type is subs

Inclination at shoe:

**Directional well information:** Kick-off point 1860 ft

Departure at shoe: Maximum dogleg:

1062 ft 3 °/100ft 0 °

Tension is based on buoyed weight. Neutral point: 7.315 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	8738	4.5	11.60	1-80	LT&C	8500	8738	3.875	762.5
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	4946	6360	1.286	4946	7780	1.57	82	212	2.58 J

Prepared

Helen Sadik-Macdonald

Div of Oil, Gas & Minerals

Phone: (801) 538-5357 FAX: (801) 359-3940

Date: September 8,2008 Salt Lake City, Utah

Collapse is based on a vertical depth of 8500 ft, a mud weight of 11.2 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

## **BOPE REVIEW**

## Kerr-McGee NBU 1022-32D4AS API 43-047-40205-0000

INPUT				
Well Name	Kerr-McGee NBU 10	22-32D4AS API 43-	047-40205-	-0000
	String 1	String 2		
Casing Size (")	9 5/8	4 1/2		
Setting Depth (TVD)	1800	8500		
Previous Shoe Setting Depth (TVD)	20	1800		
Max Mud Weight (ppg)	8.4	11.2	<b>,</b>	
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3520	7780	1	
Operators Max Anticipated Pressure (psi)	5270	11.9	opg 🐓	

Calculations	String 1	9 5/8 "	
Max BHP [psi]	.052*Setting Depth*MW =	786	
		BOPE Adequate For Drilling And Setting Casing a	Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	570 NO - O.K. Air Drill to surface st	noe with diverter
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	390 YES	
		*Can Full Expected Pressure Be Held At Previous	Shoe?
Pressure At Previous Shoe	Max BHP22*(Setting Depth - Previous Shoe Depth) =	395 ENO Reasonable Depty	
Required Casing/BOPE Test	Pressure	1800 psi <i>f</i>	
*Max Pressure Allowed @ Pi	revious Casing Shoe =	20 psi *Assumes 1psi/ft frac gradient	

Calculations	String 2	4 1/2	n		
Max BHP [psi]	.052*Setting Depth*MW =	4950			<del>-</del>
		****	BOPE Adequ	ate F	or Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	3930	YES	V	
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	3080			
			*Can Full Ex	pecte	d Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe   Max B	HP22*(Setting Depth - Previous Shoe Depth) =	3476	€ NO	12	ersprable
Required Casing/BOPE Test Pressu	re	500Q	psi /		
*Max Pressure Allowed @ Previous	Casing Shoe =	1800	psiv		*Assumes 1psi/ft frac gradient

## **United States Department of the Interior**

#### BUREAU OF LAND MANAGEMENT

Utah State Office P.O. Box 45155 Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

July 15, 2008

#### Memorandum

To:

Assistant District Manager Minerals, Vernal District

From:

Michael Coulthard, Petroleum Engineer

Subject:

2008 Plan of Development Natural Buttes Unit

Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2008 within the Natural Buttes Unit, Uintah County, Utah.

API #

WELL NAME

LOCATION

#### (Proposed PZ Wasatch/MesaVerde)

43-047-40184	NBU	921-30FT	Sec	30	T09S	R21E	1585	FNL	2614	FWL
43-047-40185	NBU	921-31BT	Sec	31	T09S	R21E	0670	FNL	2008	FEL
43-047-40170	NBU	921-27KT	Sec	27	T09S	R21E	1527	FSL	1821	FWL
43-047-40171	NBU	921-27MT	Sec	27	T09S	R21E	0634	FSL	0931	FWL
43-047-40172	NBU	921-270T	Sec	27	T09S	R21E	0646	FSL	2211	FEL
43-047-40173	NBU	921-27HT	Sec	27	T09S	R21E	2025	FNL	0623	FEL
43-047-40174	NBU	921-27LT	Sec	27	T09S	R21E	1954	FSL	0641	FWL
43-047-40175	NBU	921-33K	Sec	33	T09S	R21E	2066	FSL	1926	FWL
43-047-40227	NBU	921-27C2D	Sec	27	T09S	R21E	0650	FNL	1730	FWL
		•								
43-047-40203	NBU	921-27D2DS	Sec	27	T09S	R21E	0660	FNL	1713	FWL
		BHL	Sec	27	T09S	R21E	0395	FNL	0350	FWL
43-047-40202	NBU	921-27D2AS	Sec	27	T09S	R21E	0640	FNL	1747	FWL
		$\mathtt{BHL}$	Sec	27	T09S	R21E	0050	FNL	0350	FWL
43-047-40201	NBU	921-27C2AS	Sec	27	T09S	R21E	0630	FNL	1765	FWL
		BHL	Sec	27	T09S	R21É	0300	FNL	1730	FWL
43-047-40169	NBU	921-26IT	Sec	26	T09S	R21E	1964	FSL	0674	FEL.
43-047-40176	NBU	922-29NT	Sec	29	T09S	R22E	0845	FSL	1627	FWL
43-047-40177	NBU	922-29KT	Sec	29	T09S	R22E	1795	FSL		FWL
43-047-40178	NBU	922-31BT	Sec	31	T09S	R22E	0888	FNL	2191	FEL

```
43-047-40179 NBU 922-32ET Sec 32 T09S R22E 2477 FNL 0094 FWL 43-047-40186 NBU 922-330T Sec 33 T09S R22E 0692 FSL 1465 FEL
43-047-40187 NBU 922-33NT Sec 33 T09S R22E 0890 FSL 2291 FWL
43-047-40188 NBU 922-33IT Sec 33 T09S R22E 2115 FSL 0579 FEL
43-047-40191 NBU 1022-04GT Sec 04 T10S R22E 1897 FNL 1861 FEL
43-047-40189 NBU 922-35IT Sec 35 T09S R22E 2133 FSL 0627 FEL
43-047-40190 NBU 1022-01CT Sec 01 T10S R22E 0819 FNL 2106 FWL
43-047-40192 \ \text{NBU} \ 1022-08 \text{IT} \qquad \text{Sec } 08 \ \text{T10S} \ \text{R22E} \ 1757 \ \text{FSL} \ 0323 \ \text{FEL}
43-047-40193 NBU 1022-08GT Sec 08 T10S R22E 2313 FNL 1922 FEL
43-047-40194 NBU 1022-09AT Sec 09 T10S R22E 0472 FNL 0582 FEL
43-047-40195 NBU 1022-10HT Sec 10 T10S R22E 1798 FNL 0297 FEL
43-047-40196 NBU 1022-10FT
                               Sec 10 T10S R22E 2200 FNL 2094 FWL
43-047-40204 NBU 1022-32D1S Sec 32 T10S R22E 0205 FNL 2058 FWL
                          BHL Sec 32 T10S R22E 0270 FNL 1310 FWL
43-047-40205 NBU 1022-32D4AS Sec 32 T10S R22E 0198 FNL 2077 FWL
                           BHL Sec 32 T10S R22E 0760 FNL 1180 FWL
43-047-40206 NBU 1022-32B3S Sec 32 T10S R22E 0185 FNL 2114 FWL
                          BHL Sec 32 T10S R22E 1150 FNL 2130 FEL
43-047-40207 NBU 1022-32D4DS Sec 32 T10S R22E 0192 FNL 2096 FWL
                           BHL Sec 32 T10S R22E 1240 FNL 1050 FWL
```

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Natural Buttes Unit Division of Oil Gas and Mining Central Files Agr. Sec. Chron Fluid Chron

MCoulthard:mc:7-15-08



Kerr-McGee Oil & Gas Onshore LP 1999 Broadway, Suite 3700 Denver, CO 80205

July 21, 2008

Mrs. Diana Mason Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11

NBU 1022-32D4AS

T10S-22E

Section 32: NWNW

Surface: 198' FNL, 2077' FWL Bottom Hole: 760' FNL, 1180' FEL

Uintah County, Utah

Dear Mrs. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 1022-32D4AS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore and all of section 32 (State Lease UT ST ML 22798).

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Jason K. Rayburn Landman

RECEIVED
JUL 2 2 2008

DIV. OF OIL, GAS & MINING

From:

Jim Davis

To:

Bonner, Ed; Mason, Diana

Date:

10/23/2008 8:34 AM

Subject:

A few more KMG approvals.

The following wells have been cleared by SITLA including arch and paleo clearance.

Kerr-McGee's NBU 1022-32D1S [API #4304740204] Kerr-McGee's NBU 1022-32D4AS [API #4304740205] Kerr-McGee's NBU 1022-32B3S [API #4304740206] Kerr-McGee's NBU 1022-32D4DS [API #4304740207]

I've sent out three approval e-mails this morning. Sorry I didn't have them all grouped together- they've just been in a jumble on my desk.

-Jim

Jim Davis Utah Trust Lands Administration jimdavis1@utah.gov Phone: (801) 538-5156





MICHAEL R. STYLER Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

November 4, 2008

Kerr-McGee Oil & Gas Onshore, LP P O Box 173779 Denver, CO 80217-3779

Re:

NBU 1022-32D4AS Well, 198' FNL, 2077' FWL, NE NW, Sec. 32, T. 10 South,

R. 22 East, Bottom Location 760' FNL, 1180' FWL, NW NW, Sec. 32, T. 10 South,

R. 22 East, Uintah County, Utah

#### Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-40205.

Sincerely,

Gil Hunt

Associate Director

pab Enclosures

cc:

**Uintah County Assessor** 

SITLA

Bureau of Land Management, Vernal Office



Operator: Kerr-McGee Oil & Gas Onshore, LP						
Well Name & Numl	ber	NBU	J 1022-3	32D4AS		
API Number:		43-0	47-4020	)5	-	
Lease:		ST N	<i>I</i> L 2279	98		
Location:	NE NW	Sec32_	÷ V	T. 10 South	<b>R.</b> 22 East	
<b>Bottom Location:</b>	NW NW	Sec. 32		<b>T.</b> <u>10 South</u>	<b>R.</b> <u>22 East</u>	

#### **Conditions of Approval**

#### 1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### 2. Notification Requirements

The operator is required to notify the Division of Oil, Gas and Mining of the following action during drilling of this well:

- 24 hours prior to cementing or testing casing contact Dan Jarvis
- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to spudding the well contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program – contact Dustin Doucet
- Prior to commencing operations to plug and abandon the well contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well contact Dustin Doucet
- Any changes to the approved drilling plan contact Dustin Doucet

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

• Dan Jarvis at: (801) 538-5338 office (801) 942-0871 home

Carol Daniels at: (801) 538-5284 office
Dustin Doucet at: (801) 538-5281 office (801) 733-0983 home

#### 3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

Page 2 43-047-40205 November 4, 2008

- 4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.
- 5. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)
- 6. In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.
- 7. In accordance with Order in Cause No. 190-5(b) dated October 28, 1982, the Operator shall comply with requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operator shall ensure that the surface and/or production casing is properly cemented over the entire oil shale interval as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the Division.
- 8. Surface casing shall be cemented to the surface.

## **DIVISION OF OIL, GAS AND MINING**

#### **SPUDDING INFORMATION**

Name of Company: Kerr-McGee Oil & Gas Onshore, LP.	
Well Name: NBU 1022-32D4AS	
API No: 43-047-40205 Lease Type: Star	te
Section 32 Township 10S Range 22E County Uintah	
Drilling Contractor Pete Martin Drilling Rig #_	Bucket
SPUDDED:	
Date _04/30/09	
Time _12:00 PM	
How_Dry	
Drilling will Commence:	
Reported by Lew Weldon	
Telephone #435-781-7060	
Date 05/05/2009Signed RM	

# STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

<b>ENTITY ACTION</b>	<b>FORM</b>

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

1368 SOUTH 1200 EAST

city VERNAL

state UT zip 84078

Phone Number: (435) 781-7024

Well 1

API Number	Well	<b>Va</b> me	QQ	Sec	Twp	Rng	County
4304740205	NBU 1022-32D4AS		NENW	32	105	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	S	Spud Date		Entity Assignment Effective Date	
B	99999	2900		1/30/200	9		5/19/109

Comments:

MIRU PETE MARTIN BUCKET RIG. WSMVD SPUD WELL LOCATION ON 04/30/2009 AT 1200 HRS.

BHL = NWNW -

Well 2

API Number	Well	Name	QQ	Sec	Twp	Rng	County
4304740207	NBU 1022- 3204	<b>b</b> 2	NENW	32	108	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	S	pud Da	te	1 .	ty Assignment fective Date
B	99999	2900	4	/30/200	9	51	19/09

Comments:

MIRU PETE MARTIN BUCKET RIG. WSmVb SPUD WELL LOCATION ON 04/30/2009 AT 1000 HRS.

BHL = NWNW

Well 3

API Number	Well I	QQ	Sec	Twp	Rng	County	
4304740204	NBU 1022-32D1S		NENW	32	108	22E	HATMIU
Action Code	Current Entity Number	New Entity Number	s	pud Dat	е		y Assignment fective Date
В	99999	2900	4	1/30/200	9	5	119/09

Comments:

MIRU PETE MARTIN BUCKET RIG. WSmVD SPUD WELL LOCATION ON 04/30/2009 AT 0800 HRS.

BHL=NWNW -

1/2009

Date

SHEILA UPCHEGO

REGULATORY ANALYST

#### **ACTION CODES:**

(6/2000)

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a new entity
- E Other (Explain in 'comments' section)

RECEIVED

MAY 0 1 2009

#### STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES	
DIVISION OF OIL, GAS AND MINING	5. LEASE DESIGNATION AND SERIAL NUMBER: ST ML-22798
SUNDRY NOTICES AND REPORTS ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	7. UNIT OF CA AGREEMENT NAME: UNIT #891008900A
1. TYPE OF WELL OIL WELL GAS WELL 🗸 OTHER	8. WELL NAME and NUMBER: NBU 1022-32D4AS
2. NAME OF OPERATOR: KERR McGEE OIL & GAS ONSHORE LP	9. API NUMBER: 4304740205
3. ADDRESS OF OPERATOR: 1368 SOUTH 1200 EAST CITY VERNAL STATE UT ZIP 84078 PHONE NUMBER: (435) 781-7024	10. FIELD AND POOL, OR WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL	
FOOTAGES AT SURFACE: 198'FNL, 2077'FWL	COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: NENW 32 10S 22E	STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT	RT, OR OTHER DATA
TYPE OF SUBMISSION TYPE OF ACTION	
NOTICE OF INTENT ACIDIZE DEEPEN	REPERFORATE CURRENT FORMATION
(Submit in Duplicate)	SIDETRACK TO REPAIR WELL
Approximate date work will start: CASING REPAIR NEW CONSTRUCTION	TEMPORARILY ABANDON
CHANGE TO PREVIOUS PLANS OPERATOR CHANGE	TUBING REPAIR
CHANGE TUBING PLUG AND ABANDON	VENT OR FLARE
✓ SUBSEQUENT REPORT CHANGE WELL NAME PLUG BACK	WATER DISPOSAL
(Submit Original Form Only)  CHANGE WELL STATUS  PRODUCTION (START/RESUME)	WATER SHUT-OFF
Date of work completion:  COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE	OTHER:
CONVERT WELL TYPE RECOMPLETE - DIFFERENT FORMATION	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volume MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 10 PIPE. CMT W/28 SX READY MIX.  SPUD WELL LOCATION ON 04/30/2009 AT 1200 HRS.	
NAME (PLEASE PRINT) SHEILA UPCHEGO TITLE REGULATORY A	NALYST
1) · le million	
SIGNATURE // JUNE // DATE 5/1/2009	
This space for State use only)	

RECEIVED
MAY 18 2009

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINI		5.LEASE DESIGNATION AND SERIAL NUMBER: ST ML 22798
SUNDE	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
	sals to drill new wells, significantly deepen ex igged wells, or to drill horizontal laterals. Use		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 1022-32D4AS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSI	HORE, L.P.		<b>9. API NUMBER:</b> 43047402050000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	treet, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6587 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0198 FNL 2077 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 32	P, RANGE, MERIDIAN: Township: 10.0S Range: 22.0E Meridian: S		STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	☐ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
Approximate date work will start.	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	☐ TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT     Report Date:	☐ WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
6/12/2009	☐ WILDCAT WELL DETERMINATION	OTHER	OTHER:
MIRU PROPETRO AII TO 1970'. RAN 9 5/8 @11.0# 3.82 YIELD YIELD. TOP OUT W/2	MPLETED OPERATIONS. Clearly show all perting R RIG ON 06/08/2009. DRILLEIG #36 J55 SURFACE CSG. PUMP D. TAILED CMT W/200SX PREM 275 SX PREM CLASS G @15.8 FURFACE HOLE STAYED FULL. W	D 12 ¼" SURFACE HOLE 150 SX HIFILL CLASS G <b>A</b> CLASS G @ 15.8# 1.15 <b>U</b> PPG 1.15 YIELD. CMT <b>TOII</b>	ccepted by the Itah Division of
NAME (PLEASE PRINT) Sheila Upchego	<b>PHONE NUMBER</b> 435 781-7024	TITLE Regulatory Analyst	
SIGNATURE N/A		DATE 6/15/2009	

			FORM 9
	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCE	-6	
	ing NING	<b>5.LEASE DESIGNATION AND SERIAL NUMBER:</b> ST ML 22798	
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for propos bottom-hole depth, reenter plu DRILL form for such proposals.	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 1022-32D4AS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSI	HORE, L.P.		<b>9. API NUMBER:</b> 43047402050000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th St	treet, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0198 FNL 2077 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 32	<b>P, RANGE, MERIDIAN:</b> Township: 10.0S Range: 22.0E Meridian:	S	STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDICAT	TE NATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	☐ ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
Approximate date work will start.	CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
·	OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	☐ VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT     Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
8/18/2009	☐ WILDCAT WELL DETERMINATION	OTHER	OTHER:
13 DESCRIPE PROPOSED OF CO			
FINISHED DRILLIN 11.6# I-80 PRODUCT TAILED CMT W/1250 DISPLACE W/136 BB ALDACIDE G @2230 I RETURN. GOOD RET WASH OUT BOPE LA 8832' FLOAT COLLA MUCH TO SECONDA		08/15/2009. RAN 4 1/2" SX @11.7 PPG 2.45 YIELD. DE YIELD. DROPPED PLUG OF BBL CLAYFIX II AND 0.001 I FLOATS HELD W/1 FOR BBLS CMT TO SURFACE. DING JT FLOAT SHOE AT PE TRANSFER 700 BBLS S. RELEASED ENSIGN RIG B/2009 AT 1000 HRS.	accepted by the Stah Division of . Gas and Mining
NAME (PLEASE PRINT) Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	TITLE Regulatory Analyst	
SIGNATURE N/A		<b>DATE</b> 8/19/2009	

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ST ML 22798
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
	sals to drill new wells, significantly deepen e gged wells, or to drill horizontal laterals. Us		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 1022-32D4AS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSI	HORE, L.P.		9. API NUMBER: 43047402050000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th St	treet, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6007 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0198 FNL 2077 FWL QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 32	<b>P, RANGE, MERIDIAN:</b> Township: 10.0S Range: 22.0E Meridian: S	:	COUNTY: UINTAH  STATE: UTAH
11. CHEC	CK APPROPRIATE BOXES TO INDICATE	E NATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION		
	ACIDIZE	ALTER CASING	CASING REPAIR
Approximate date work will start:	☐ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
9/10/2009	☐ CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
SUBSEQUENT REPORT	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	VENT OR FLARE	☐ WATER DISPOSAL
DRILLING REPORT Report Date:	☐ WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
Report Date:	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Pit refurb
Kerr McGee Oil and G to allow for additional	MPLETED OPERATIONS. Clearly show all perti as Onshore LP requests to reful I volumes needed for completion dout and mixed with the pit sp relined with a 30 mil and felt	urb the existing drilling pit on operations. The drilling poils pile. The pit will be liner.	
NAME (PLEASE PRINT) Ramey Hoopes	<b>PHONE NUMBER</b> 435 781-7003	TITLE Sr. Land Specialist	
SIGNATURE N/A	, 02 , 000	<b>DATE</b> 9/2/2009	

			FORM 9
	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES		FORM 9
	5	5.LEASE DESIGNATION AND SERIAL NUMBER: ST ML 22798	
SUNDF	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for proposition-hole depth, reenter plu DRILL form for such proposals.	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 1022-32D4AS		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSI	<b>9. API NUMBER:</b> 43047402050000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	reet, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6007 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0198 FNL 2077 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 32	P, RANGE, MERIDIAN: Township: 10.0S Range: 22.0E Meridian: S		STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDICATE NA	ATURE OF NOTICE, REPORT,	OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
☐ NOTICE OF INTENT	☐ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	☐ CHANGE WELL NAME
Approximate date work will start:	☐ CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
Date of Work Completion:		PLUG AND ABANDON	PLUG BACK
		RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
SPUD REPORT Date of Spud:			
		SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
✓ DRILLING REPORT	☐ TUBING REPAIR ☐ \	VENT OR FLARE	☐ WATER DISPOSAL
Report Date:	☐ WATER SHUTOFF ☐ S	SI TA STATUS EXTENSION	APD EXTENSION
1/8/2010	□ WILDCAT WELL DETERMINATION □ (	OTHER	OTHER:
THE SUBJECT WELL	MPLETED OPERATIONS. Clearly show all pertinen WAS PLACED ON PRODUCTION CTO THAT ATTACHED CHRONOLO	ON 1/8/2010 AT 11:00 GICAL WELL HISTORY <b>A</b> L Oil	·
NAME (PLEASE PRINT) Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	TITLE Regulatory Analyst	
SIGNATURE N/A		<b>DATE</b> 1/12/2010	

## **Operation Summary Report**

Well: NBU 1022-32D4AS [YELLOW]	Spud Conductor: 4/30/2009	Spud Date: 6/7/2009
Project: UTAH-UINTAH	Site: NBU 1022-32C PAD	Rig Name No: ENSIGN 139/139, PROPETRO/
Event: DRILLING	Start Date: 6/3/2009	End Date: 8/18/2009

Active Datum: RKB @5,463.00ft (above Mean Sea

UWI: 0/10/S/22/E/32/0/NENW/26/PM/N/198.00/W/0/2,077.00/0/0

Level)	KND @5,465.00IL (6	above ivical	ı oca	O V V 1. 0/	10/0/22		121111/20/1 11/1	
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
6/7/2009	12:00 - 16:30	4.50	MIRU	01	Α	Р		RIG UP RIG.
	16:30 - 17:30	1.00	DRLSUR	02	Α	Р		DRILL 40'- 129', W/ AIR HAMMER.
	17:30 - 18:00	0.50	DRLSUR	05	F	P		CLEAN HOLE.
	18:00 - 19:00	1.00	DRLSUR	06	Α	P		P/U MUD MOTOR AND SCRIBE.
	19:00 - 19:30	0.50	DRLSUR	21	D	Р		WAIT ON MULTISHOT WIRELINE TOOL
	19:30 - 20:30	1.00	DRLSUR	06	Α	Р		RIG UP MULTISHOT ORNATE MULE SHOE.
	20:30 - 22:00	1.50	DRLSUR	03	E	Р		WASH AND REAM 40'-129'.
	22:00 - 23:00	1.00	DRLSUR	14	В	Р		CHANGE OUT CROSS OVER SUB.
	23:00 - 0:00	1.00	DRLSUR	06	Α	Р		ORNATE SURVEY TOOL.
6/8/2009	0:00 - 2:30	2.50	DRLSUR	02	D -	P		DRILL SLIDE 130'-200', RUN MULTISHOT WIRELINE GYRO EVERY 30'.
	2:30 - 3:00	0.50	DRLSUR	14	В	P		INSTALL HEAD RUBBER.
	3:00 - 3:30	0.50	DRLSUR	02	D	P		DRILL SLIDE 200'-230'
	3:30 - 4:00	0.50	DRLSUR	80	В	Р		WORK ON PUMP.
	4:00 - 10:30	6.50	DRLSUR	02	D _	P _		DRILL SLIDE 230'-440' RUN MULTISHOT WIRELINE GYRO EVERY 30'
	10:30 - 13:30	3.00	DRLSUR	21	D	Z		4 MISS RUNS ON GYRO TOOLS CHANGE OUT CAMERA FILM. CIRC AND CONDITION HOLE.
	13:30 - 14:00	0.50	DRLSUR	05	A	P		
	14:00 - 14:30	0.50	DRLSUR	08	A	Z		RIG REPAIR OIL LINE ON A/C CIRC AND CONDITION HOLE
1	14:30 - 15:00	0.50	DRLSUR	05	A	P		RIG REPAIR FIX THROTTLE.
	15:00 - 16:30	1.50	DRLSUR	80	A	Z		TRIP OUT OF HOLE FOR MWD TOOLS.
	16:30 - 18:30	2.00	DRLSUR	06	A	P		DROPPED MM, PDC MULE SHOE, FROM 42' TO
	18:30 - 0:00	5.50	DRLSUR	19	Α	Z		BOTTOM OF HOLE. TRIP BACK IN HOLE AND SCREW INTO FISH.
6/9/2009	0:00 - 2:30	2.50	DRLSUR	08	Α	Z		BROKE ARM ON BREAK OUT TOOL
\$70,200	2:30 - 8:30	6.00	DRLSUR	06	Α	Р		L/D FISH , MUD MOTOR, MULTI- SHOT P/U NEW BHA, ORINATE TOOLS .TRIP IN HOLE 298'
	8:30 - 11:00	2.50	DRLSUR	03	В	Р		REAM OUT DOG LEG @ 263, TO 440'
	11:00 - 11:30	0.50	DRLSUR	07	Α	Р		RIG SERVICE
	11:30 - 13:30	2.00	DRLSUR	02	D	Р		DRILL SLIDE, 440'-573'.
	13:30 - 14:30	1.00	DRLSUR	08	Α	Z		RIG REPAIR, WORK ON PIT PUMPS.
1	14:30 - 15:30	1.00	DRLSUR	02	D	Р		DRILL SLIDE 573'- 621'
	15:30 - 16:30	1.00	DRLSUR	10	С	P		RN GYRO SURVEY 519' 7 DEG, AZI 224.
	16:30 - 0:00	7.50	DRLSUR	02	D	Z		DRILL SLIDE 621'- 1121' WOB 16-18 K RP 45,
6/10/2009	0:00 - 5:30	5.50	DRLSUR	02	D	Р		DRILL & SLIDE F/1121 TO 1431
	5:30 - 7:00	1.50	DRLSUR	80	В	Z		REAIR PIT PUMP
	7:00 - 14:30	7.50	DRLSUR	02	D	P		DRILL&SLIDE 1431 TO 1741
	14:30 - 15:00	0.50	DRLSUR	08	В	Z		REPAIR STND PIPE HOSE
	15:00 - 18:00	3.00	DRLSUR	02	D	Р		DRILL &SLIDE F/1741 TO 1821
	18:00 - 18:30	0.50	DRLSUR	08	В	Z		REPAIR DERRICK HOSE
	18:30 - 22:30	4.00	DRLSUR	02	D	Ρ		DRILL & SLIDE F/1821 TO 1970 TD
	22:30 - 23:00	0.50	DRLSUR	05	С	Ρ		CIRC TO LDDP
	23:00 - 0:00	1.00	DRLSUR	06	Α	Ρ		LDDP
6/11/2009	0:00 - 5:00	5.00	DRLSUR	06	Α	Ρ		LDDP & BHA
	5:00 - 7:00	2.00	CSG	12	С	Р		RUN 45 JTS #40 J-55,9.625 CSG TO1947'

## **Operation Summary Report**

 Well: NBU 1022-32D4AS [YELLOW]
 Spud Conductor: 4/30/2009
 Spud Date: 6/7/2009

 Project: UTAH-UINTAH
 Site: NBU 1022-32C PAD
 Rig Name No: ENSIGN 139/139, PROPETRO/

 Event: DRILLING
 Start Date: 6/3/2009
 End Date: 8/18/2009

Active Datum: RKB @5,463.00ft (above Mean Sea

UWI: 0/10/S/22/E/32/0/NENW/26/PM/N/198.00/W/0/2,077.00/0/0

Active Datum: F Level)	RKB @5,463.00ft (	anove Mear	ı Sea	UVVI: 0/10/5/22/E/32/0/NEINVV/26/PIVI/N/				4		
Date	Time	Duration	Phase	Code	Sub	P/U	MD From	Operation		
	7:00 - 8:00	( <b>hr</b> ) 1.00	CSG	12	E E	P	<u>(ft)</u>	LEAD PUMP 150 SX,11LB,3.82 YLD,TAIL D, 200SX 15.8,1.15YLDISP144 BBLS H2O,FLOATS HELD,2		
8/10/2009	0:00 - 2:00	2.00	MIRU	01	С	Р		TOP JOBS 275 SX TAIL, STAYED FULL RDRT-SKID RIG-RURT		
UI 1012003	2:00 - 3:00	1.00	DRLPRO	14	A	Р		N/UP BOPE		
	3:00 - 6:00	3.00	DRLPRO	15	Α	Р		TEST BOP - RAMS, CHOKE, CHOKE LINE, FLOOR VALVES, IBOP 250 LOW 5000 HIGH, ANNULAR 250 LOW 2500 HIGH, CASING 1500 (PRE-SPUD RIG INSPECTION WHILE TEST BOP)		
	6:00 - 6:30	0.50	DRLPRO	14	В	Р		INSTALL WEARBUSHING		
	6:30 - 8:30	2.00	MAINT	08	В	Z		FOUND BROKEN YOKE ON DRAWWORKS DISK BRAKE HYD CYLINDER - REPLACED CYLINDER BUILD DIBECTIONAL BHA BUILD 15 HWDR 1 Y 1		
	8:30 - 12:00	3.50	DRLPRO	06	A	Р		P/UP DIRECTIONAL BHA - P/UP 15 HWDP 1 X 1 - RIH TAG CEMENT @ 1888' INSTALL ROTATING RUBBER - LEVEL DERRICK		
	12:00 - 13:00	1.00	DRLPRO	07	В	P		DRILL CEMENT, FE & RATHOLE F/1888' TO 1984'		
	13:00 - 14:30	1.50	DRLPRO	02	F	Р		DRILL/SLIDE F/1984' TO 2126' (142' @ 56.8fph) MW		
	14:30 - 17:00	2.50	DRLPRO	02	D	Р		8.4, VIS 26, WOB 10/18, RPM 45, MM RPM 112, TQ 7, GPM 487, 2081-2091, DIFF 200		
	17:00 - 17:30	0.50	DRLPRO	07	Α	P -		RIG SER		
	17:30 - 0:00	6.50	DRLPRO	02	D	Р		DRILL/SLIDE F/2126' TO 3032' (906' @ 139.4fph) MW 8.4, VIS 26, WOB 15/18, RPM 45, MM RPM 112, TQ 7, GPM 487, SLIDE 2172-2182, 2217-2227, 2308-2319, 2367-2382, 2488-2502, 2760-2774, 2987-3000, WOB 18, MM RPM 112, GPM 487, DIFF 240		
8/11/2009	0:00 - 12:30	12.50	DRLPRO	02	D	Р		DRILL/SLIDE F/3032' TO 4211' (1179' @ 94.3fph) MW 8.4, VIS 26, WOB 18, RP0M 45, MM RPM 112, TQ 10, GPM 487, SLIDE 3062-3067, 3213-3219, 3242-3250, 3303-3311, 3394-3408, 3430-3440, 3484-3496, 3515-3523, 3575-3583, 3609-3614, 3665-3673, 3701-3709, 3756-3766, 3791-3801, 3846-3852, 3876-3884, 3937-3945, 4027-4035, 4057-4067, 4118-4130,		
	12:30 - 13:00	0.50	DRLPRO	07	Α	Р		RIG SER		
	13:00 - 0:00	11.00	DRLPRO		D	Р		DRILL/SLIDE F/4211' TO 5434' (1223' @ 111fph) MW 8.4, VIS 26, WOB 18, RPM 45, MM RPM 112, TQ 10, GPM 487, SLIDE 4211-4223, 4389-4399,		
8/12/2009	0:00 - 13:30	13.50	DRLPRO	02	D	Р		DRLG F/5434' TO 6472' (1038' @ 76.9fph) MW 9.4, VIS 36, WOB 18, RPM 45, MM RPM 112, TQ 14, GPM 487, SLIDE 5476-5486, 5838-5850, 6110-6123,		
	13:30 - 14:00	0.50	DRLPRO	07	Α	Р		RIG SER		
	14:00 - 0:00	10.00	DRLPRO	02	D	Р		DRLG F/6472' TO 6974' (502 ' @ 50.2fph) MW 10.2, VIS 40, WOB 18, RPM 45, MM RPM 112, TQ 15, GPM 487, SLIDE 6653-6671		
8/13/2009	0:00 - 10:30	10.50	DRLPRO	02	D	Р		DRLG F/6974' TO 7468' (494' @ 47fph) MW 10.5, VIS M40, WOB 18/20, RPM 45, MM RPM 112, TQ 16, GPM 487, SLIDE F/7106-7122, 7377-7392, WOB 18/20, MM RPM 112, GPM 487, DIFF 175		
	10:30 - 11:00	0.50	DRLPRO	07	Α	Р		RIG SER		
	11:00 - 0:00	13.00	DRLPRC	02	D	Р		DRLG F/7468' TO 7996' (528' @ 40.6fph) MW 11.2, VIS 44, WOB 20, RPM 45, MM RPM 112, TQ 17, GPM 487, SLIDE 7649-7661, 7739-7747, WOB 18/20, MM RPM 112, GPM 487, DIFF 150		
8/14/2009	0:00 - 4:30	4.50	DRLPRO	02	D	Р		DRLG F/7996' TO 8118' (122' @ 27fph) MW 11.4, VIS 44, WOB 25/26, RPM 45, MM RPM 112, TQ 17, GPM 487		

### **Operation Summary Report**

 Well: NBU 1022-32D4AS [YELLOW]
 Spud Conductor: 4/30/2009
 Spud Date: 6/7/2009

 Project: UTAH-UINTAH
 Site: NBU 1022-32C PAD
 Rig Name No: ENSIGN 139/139, PROPETRO/

 Event: DRILLING
 Start Date: 6/3/2009
 End Date: 8/18/2009

Active Datum: RKB @5,463.00ft (above Mean Sea

a

UWI: 0/10/S/22/E/32/0/NENW/26/PM/N/198.00/W/0/2,077.00/0/0

Level)								with the same of t
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	4:30 - 13:00	8.50	DRLPRO	06	A	Р		TFNB/MM - BACKREAM 1st 10 STDS F/8118' TO 7218' B100K O/PULL - TIGHT @ 3375' & 2635' - L/DN MWD, RACK BACK DIRECTIONAL BHA - L/DN MM & BIT #1
	13:00 - 22:00	9.00	DRLPRO	06	Α	Р		P/UP 1.25 deg .14 RPG MM & BIT #2 - RIH TO 8804' - WASH F/8804' TO 8818' - NO FILL - NO PROBLEMS
	22:00 - 0:00	2.00	DRLPRO	02	D	P		DRLG F/8818' TO 8252' (134' @ 67fph) MW 11.6, VIS 44, WOB 18, RPM 45, MM RPM 68, TQ 17, GPM 487
8/15/2009	0:00 - 11:30	11.50	DRLPRO	02	D	P		DRLG F/8252' TO 8845' (593' @ 59.3fph) MW 11.6, VIS 44, WOB 18, RPM 45, MM RPM 65, TQ 18, GPM 487
	11:30 - 13:00	1.50	DRLPRO	05	Α	Р		CIRC
1	13:00 - 14:00	1.00	DRLPRO	06	E	P		W/TRIP - BACKREAM F/8845' TO 8350'
	14:00 - 17:30	3.50	MAINT	08	В	Z		REPLACE IRON DERRICKHAND POSITION ENCODER
	17:30 - 23:00	5.50	DRLPRO	06	E -	Р		W/TRIP - BACK REAM F/8350' TO 8042' - PUMP SLUG - POOH TO CSG SHOE @ 1960'
1	23:00 - 0:00	1.00	DRLPRO	06	E	P		RIH TO 3100'
8/16/2009	0:00 - 4:00	4.00	DRLPRO	06	E -	P		W/TRIP - RIH F/3100' TO 8779'
	4:00 - 4:30	0.50	DRLPRO	03	E	P		WASH F/8779' TO 8845' - NO FILL
	4:30 - 6:00	1.50	DRLPRO	05	A	P		CIRC - PUMP HI-VIS PILL
	6:00 - 14:00	8.00	DRLPRO	06	A	P		POOH F/LOGS - L/DN MM & BIT
	14:00 - 14:30	0.50	DRLPRO	14	В	P		RETRIEVE WEARBUSHING
	14:30 - 19:00	4.50	EVALPR	11	D	Р		HPJSM - R/UP WEATHERFORD & RUN TRIPLE COMBO SLIMHOLE TOOLS TO LOGGERS TD @ 7843' - BRIDGED OUT - LOG OUT
	19:00 - 21:30	2.50	EVALPR	11	D	Р		REMOVE BOW SPRINGS F/LOGGING TOOLS - RIH TRIPLE COMBO - BRIDGED OUT @ 7843' - POOH - R/DN WEATHERFORD
	21:30 - 0:00	2.50	EVALPR	06	В	Р		P/UP WEATHERFORD COMPACT DROPOFF ASSY (LATCH SUB) W/5 7/8" CORE BIT - RIH TO 2580' @ REPORT TIME
8/17/2009	0:00 - 4:00	4.00	EVALPR	06	В	Р		RIH W/WEATHERFORD LATCH SUB ASSY F/2580' TO 8809' - NO PROBLEMS
1	4:00 - 4:30	0.50	EVALPR	06	В	Р		WASH F/8809' TO 8845'
1	4:30 - 6:00	1.50	EVALPR	05	Α	P		CIRC BTTMS UP
	6:00 - 9:00	3.00	EVALPR	06	В	Р		POOH F/8845' TO 8719' - SPACE OUT F/LOGGING TOOLS - P/UP 82' LOGGING TOOLS - RIH THRU DP - LAND & UNLATCH FROM LOGGING TOOLS @ 8719' (BTTM OF LOGGING TOOL @ 8800') - POOH WIRELINE - R/DN WEATHERFORD
	9:00 - 11:00	2.00	EVALPR	06	В	Р		POOH DP F/8719' TO 7452' @ 30' PER MIN (3 MIN PER STD) LOGGING ON MEMORY
	11:00 - 13:30	2.50	EVALPR	11	D	Р		R/UP WEATHERFORD - RIH WIRELINE THRU DP & RETRIEVE LOGGING TOOLS - VERIFY DATA "OK", R/DN WEATHERFORD - RECOVERED DATA IN MEMORY F/8800' TO 7750'
	13:30 - 19:00	5.50	EVALPR	06	В	Р		POOH DP - L'OUT WEATHERFORD HANG OFF ASSY
	19:00 - 0:00	5.00	CSG	12	С	P		HPJSM - R/UP KIMZEY - RUN 4.5" 11.60 I-80 BTC PROD CSG TO 4600' @ REPORT TIME
8/18/2009	0:00 - 3:00	3.00	CSG	12	С	Р		RUN 209 JTS 4.5" I-80 11.60 BTC, 1 MARKER JT - SPACE OUT 2' ABOVE WELL HEAD @ 8830' - R/DN KIMZEY
	3:00 - 4:30	1.50	CSG	05	Α	Р		CIRC

#### **Operation Summary Report**

 Well: NBU 1022-32D4AS [YELLOW]
 Spud Conductor: 4/30/2009
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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	4:30 - 7:00	2.50	CSG	12	E	Р		HPJSM - R/UP HALLIBURTON - TEST LINES 4900 PSI, CEMENT PROD CASING - 40 BBLS FRESH WATER, 450 SKS LEAD 11.7 PPG 2.45 YIELD, 1250 SKS TAIL 14.3 PPG 1.25 YIELD, DROPPED PLUG & DISPLACED W/136 BBLS FRESH WATER W/.01 gal/bbi CLAYFIX II AND 0.01 gal/bbi ALDACIDE G @ 2230 PSI, BUMPED PLUG @ 302 PSI - FLOATS HELD W/1.5 BBL RETURN - GOOD RETURNS DURING CMT JOB W/21 BBLS CMT TO SURFACE - R/DN HALLIBURTON
	7:00 - 7:30	0.50	CSG	12	С	Р		WASH OUT BOPE - LAND CSG @ 8832' - L/OUT LANDING JT - FLOAT SHOE @ 8832', FLOAT COLLAR @ 8789'
	7:30 - 10:00	2.50	DRLPRO	14	Α	P		N/DN BOPE - TRANSFER 700 BBLS MUD TO SECONDARY TANKS, CLEAN RIG TANKS - RELEASE RIG @ 10:00 8/18/09

PERF GUNS, SET CBP @ 8388', PERF THE

HSM, COLD WEATHER PERF & FRAC

8355'- 8358', 8284'- 8287', 8216'- 8219', 4-SPF, USING 3 3/8" SCALLOP GUNS, 23 gm, 0.36" HOLE

MESAVERDE @

90\* PHS, 36 HOLES,

#### **US ROCKIES REGION Operation Summary Report** Spud Conductor: 4/30/2009 Spud Date: 6/7/2009 Well: NBU 1022-32D4AS [YELLOW] Rig Name No: Site: NBU 1022-32C PAD Project: UTAH-UINTAH End Date: 1/5/2010 Start Date: 12/24/2009 **Event: COMPLETION** Active Datum: RKB @5,463.00ft (above Mean Sea UWI: 0/10/S/22/E/32/0/NENW/26/PM/N/198.00/W/0/2,077.00/0/0 Level) Sub P/U MD From Operation Time Duration Phase Code Date Code Start-End (hr) **(ft)** P 6:00 - 6:30 COMP 48 HSM. MIRU 12/28/2009 0.50 6:30 - 23:59 17.48 COMP 36 Ε Ρ STG #1] P/U RIH W/ PERF GUN 3-3/8 EXPEND [SCALLOP] 23 GRM, 0.36" HOLE, PERF MESAVERDE. 8621'-8626' 4 SPF, 90\* PH, 20 HOLES. 8448'-8452' 4 SPF, 90\* PH, 16 HOLES. [36 HOLES] WAIT ON SCHLUMBERGER TO RIG UP & FIX FRAC VAN. [9-1/2 HRS] P/T SURFACE LINES TO 8500#. WHP= 475#, BRK DN PERF @4219 # @ 6 B/M, INJ RT=50.5 B/M, INJ PSI= 5450#, ISIP= 2748#, FG=.0.75, PUMP'D 785 BBLS SLK WTR & 23533 # OTTAWA SD W/ 5000# RESIN COAT IN TAIL, ISIP= 2650#, CALC 95% PERF OPEN, FG=.0.74, AR= 41.8 B/M, AP= 4878#, MR= 50.8, MP= 6301#, NPI= 98#, (STG #2) RIH W/ HALLIBURTON 8K CBP AND

Ρ

12/29/2009

7:00 - 7:15

0.25

COMP

48

#### **Operation Summary Report**

Spud Date: 6/7/2009 Spud Conductor: 4/30/2009 Well: NBU 1022-32D4AS [YELLOW] Rig Name No: Site: NBU 1022-32C PAD Project: UTAH-UINTAH End Date: 1/5/2010 Start Date: 12/24/2009 Event: COMPLETION UWI: 0/10/S/22/E/32/0/NENW/26/PM/N/198.00/W/0/2,077.00/0/0

Active Datum: RKB @5,463.00ft (above Mean Sea

Level)

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
<u> </u>	7:15 - 21:00	13.75	COMP	36	E	Р		RIG UP TO PERF STG#2 MESAVERDE 8216'-8358' 36 HOLES. OPEN WELL @ 8:00

STG #2] WHP=2730#, BRK DN PERFS @=3353#, INJ PSI=4900#, INJT RT=40.5, ISIP=2790#, FG=.77, PUMP'D 1407 BBLS SLK WTR W/ 56632# 30/50 M.ESH W/ 5000# RESIN COAT IN TAIL ISIP=2819#, FG=.77, AR=37.6, AP=4154#

MR=40.6, MP=5143#, NPI=29# 36/36 CALC PERFS

OPEN 100%.

STG #3] P/U RIH W/ BKR 8K CBP & PERF GUN. SET CBP @ 8110', PERF MESAVERDE USING 3-3/8 EXPEND, [SCALLOP] 23 GRM, 0.36" HOLE. 8075'-8080' 4 SPF, 90\* PH, 20 HOLES. 8025'-8030' 4 SPF, 90\* PH, 20 HOLES. [40 HOLES]

WHP=2160#, BRK DN PERFS @=3930#, INJ PSE4200#, INJT RT=40, ISIP=2508#, FG=74, PUMP'D 2089 BBLS SLK WTR W/ 76305# 30/50 M.ESH W/ 5000# RESIN COAT IN TAIL. ISIP=2474#, FG=.74, AR=38.1, AP=3953# MR=40.1, MP=4705#, NPI=-34# 40/40 CALC PERFS OPEN 100%.

STG #4] P/U RIH W/ BKR 8K CBP & PERF GUN. SET CBP @ 7984', PERF MESAVERDE USING 3-3/8 EXPEND, [SCALLOP] 23 GRM, 0.36" HOLE. 7952'-7954' 4 SPF, 90\* PH, 8 HOLES. 7924'-7937' 4 SPF, 90\* PH, 12 HOLES. 7855'-7857' 4 SPF, 90\* PH, 8 HOLES. 7812'-7814' 4 SPF, 90\* PH, 8 HOLES. 7777'-7778' 4 SPF, 90\* PH, 4 HOLES [40 HOLES]

WHP=2180#, BRK DN PERFS @=3616#, INJ PSI=50.7#, INJT RT=5200, ISIP=2364#, FG=.73. PUMP'D 1590 BBLS SLK WTR W/ 63050# 30/50 M.ESH W/ 5000# RESIN COAT IN TAIL. ISIP=2369#, FG=.73, AR=46.8, AP=4462#, MR=51.7, MP=5447#, NPI=5# 30/40 CALC PERFS OPEN 74%.

STG #5] P/U RIH W/ BKR 8K CBP & PERF GUN. SET CBP @7740', PERF MESAVERDE USING 3-3/8 EXPEND, [SCALLOP] 23 GRM, 0.36" HOLE. 7706'-7710' 4 SPF, 90\* PH, 16 HOLES. 7684'-7687' 4 SPF, 90\* PH, 12 HOLES. 7491'-7492' 4 SPF, 90\* PH, 4 HOLES. 7473'-7474' 4 SPF, 90\* PH, 4 HOLES, [36 HOLES]

WHP= 3143#, BRK DN PERFS @ 3143# @ 6 B/M, INJ PSI= 4874#, INJT RT= 50.7 B/M. ISIP= 2307#. FG=.0.73, PUMP'D 1058 BBLS SLK WTR W/ 41453 # 30/50 M.ESH W/ 5000# RESIN COAT IN TAIL, ISIP= 2515#, FG= 0.76., AR= 49.5 B/M, AP= 4243#, MR= 50.8 B/M, MP= 5248#, NPI= 208#, 33/36 CALC PERFS OPEN 90 %.

STG #6] P/U RIH W/ BKR 8K CBP & PERF GUN. SET CBP @ 7261', PERF MESAVERDE USING 3-3/8 EXPEND, [SCALLOP] 23 GRM, 0.36" HOLE. 7229'-7231' 4 SPF, 90\* PH, 8 HOLES. 7209'-7212' 4 SPF, 90\* PH, 12 HOLES.

3

18:00 - SDFN. PREP TO CONT TO DRLG OUT PLGS IN AM. (4) DAY 4 - JSA & SM. NO H2S PRESENT.

				US	ROCI	CIES R	EGION			
			0	perat	ion S	umm	ary Repor			
Well: NBU 102	22-32D4AS [YELLC	)W[	Spud Co	onductor	: 4/30/20	009	Spud Date: 6/	/7/2009		
Project: UTAH-UINTAH Site: NE			U 1022-	32C PAE	)		Rig Name No:			
			Start Da	te: 12/24	1/2009			End Date: 1/5/2010		
			Sea	UWI: 0	WI: 0/10/S/22/E/32/0/NENW/26/PM/N/19			198.00/W/0/2,077.00/0/0		
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation		
								7194'-7196' 4 SPF, 90* PH, 8 HOLES. 7113'-7114' 4 SPF, 90* PH, 4 HOLES. 7038'-7040' 4 SPF, 90* PH, 8 HOLES. 40 HOLES]  WHP= 1030#, BRK DN PERFS @ 2608# @ 6 B/M, INJ PSI= 4750#, INJT RT= 50.6 B/M, ISIP= 2439#, FG= 0.77., PUMP'D 1182 BBLS SLK WTR W/ 48910 # 30/50 M,ESH W/ 5000# RESIN COAT IN TAIL, ISIP=2750 #, FG=0.82., AR= 44.8 B/M, AP= 4138#, MR= 50.8 B/M, MP= 4775#, NPI= 311#, 38 / 40 CALC PERFS OPEN 95 %.		
1/4/2010	7:00 - 7:15	0.25	COMP	48		Р		( KILL PLUG ) RIH W BAKER 8K CBP, SET CBP @ 6988', R/D WIRELINE AND FRAC. DAY 3 - JSA & SM. NO H2S ON LOCATION		
	7:15 - 11:00	3.75	COMP	30	Α	P		RD SERVICE UNIT FROM NBU 1022-32D4DS & RU ON NBU 1022-32D4AS. SPOT EQUIP. WHP = 0 PSI, ND FRAC VALVES, NU BOP. PREP & TALLY TBG.		
	11:00 - 18:00	7.00	COMP	31	I	Р		PU 3 7/8" BIT, POBS & XN NIPPLE. RIH ON NEW 2 3/8" 4.7# L80 TBG. TAG FILL @ 6978'. RU PWR SWVL & PMP. EST CIRC. PT BOP TO 3000 PSI. C/O 10' OF SND.		
								CBP 1) DRLG OUT BAKER 8K CBP @ 6988' IN 10 MIN. 400 PSI DIFF. RIH TAG FILL @ 7231'. C/O 30' OF FILL. FCP = 50 PSI.		
								CBP 2) DRLG OUT BAKER 8K CBP @ 7261' IN 50 MIN. 600 PSI DIFF. RIH W/1 JT. EOT @ 7310'. CIRC WELL CLEAN. FLOW CSG FOR 20 MIN. FCP = 50 PSI. SWI - DRAIN-UP SURFACE EQUIP.		

Р

7:00 - 7:30

1/5/2010

0.50

COMP

48

1/12/2010 2:50:53PM

**Operation Summary Report** Spud Conductor: 4/30/2009 Spud Date: 6/7/2009 Well: NBU 1022-32D4AS [YELLOW] Site: NBU 1022-32C PAD Rig Name No: Project: UTAH-UINTAH End Date: 1/5/2010 **Event: COMPLETION** Start Date: 12/24/2009 UWI: 0/10/S/22/E/32/0/NENW/26/PM/N/198.00/W/0/2,077.00/0/0 Active Datum: RKB @5,463.00ft (above Mean Sea Level) **MD** From P/U Operation Time Duration Phase Code Sub Date Start-End Code (11) (hr) COMP 44 Р WHP = 1000 PSI. EOT @ 7310'. RIH TAG FILL @ 7:30 - 12:00 4.50 C 7720'. C/O 20' OF SND. FCP = 50 PSI. CBP 3) DRLG OUT BAKER 8K CBP @ 7740' IN 8 MIN. 300 PSI DIFF. RIH TAG FILL @ 7959'. C/O 25' OF SND. FCP = 100 PSI. CBP 4) DRLG OUT BAKER 8K CBP @ 7984' IN 8 MIN. 200 PSI DIFF. RIH TAG FILL @ 8080'. C/O 30' OF SND. FCP = 100 PSI. CBP 5) DRLG OUT BAKER 8K CBP @ 8110' IN 10 MIN. 300 PSI DIFF. RIH TAG FILL @ 8363'. C/O 25' OF SND. FCP = 275 PSI. CBP 6) DRLG OUT BAKER 8K CBP @ 8388' IN 15 MIN. 400 PSI DIFF. RIH TAG FILL @ 8648'. PBTD @ 8788'. C/O 140' OF SND. FCP = 225 PSI. PBTD @ 8788'. CIRC WELL CLEAN. RD PWR SWVL, RU TBG EQUIP. POOH & LD 19 JTS TBG ON FLOAT, (40 JTS TOTAL ON FLOAT). LND TBG ON HANGER W/258 JTS NEW 2 3/8" 4.7# L80 TBG. EOT @ 8204.34', XN NIPPLEL @ 8202.14'. 17 MIN AVG/PLG, C/O 280' OF SND. RD FLOOR & TBG EQUIP., ND BOP, DROP BALL, NUWH. PMP OF BIT @ 1400 PSI. WAIT 30 MIN FOR BIT TO FALL TO BTM. TURN WELL TO F.B.T. ON 20 CHOKE. FTP = 000 PSI, SICP = 1225 PSI. TURN WELL TO F.B.C. RD SERVICE UNIT FROM 32D4AS. RU ON THE NBU 1022-32D1S. SPOT EQUIP. ND FRAC VALVES, NU BOP. 7 AM FLBK REPORT: CP 2050#, TP 1000#, 20/64" 33 Α 7:00 -1/6/2010 CK, 50 BWPH, LIGHT SAND, LIGHT GAS TTL BBLS RECOVERED: 2635 BBLS LEFT TO RECOVER: 5677 7 AM FLBK REPORT: CP 2200#, TP 1100#, 20/64" 7:00 33 Α 1/7/2010 CK, 41 BWPH, LIGHT SAND, LIGHT GAS TTL BBLS RECOVERED: 3720 BBLS LEFT TO RECOVER: 4592 7 AM FLBK REPORT: CP 1975#, TP 1000#, 20/64" 7:00 -33 Α 1/8/2010 CK, 28 BWPH, LIGHT SAND, 1070 GAS TTL BBLS RECOVERED: 4526 **BBLS LEFT TO RECOVER: 3786** WELL TURNED TO SALE @ 1100 HR ON 1/8/10 -11:00 -**PROD** 50 FPT 1250#, CP 2200#, 900 MCFD, 41 BWPD, 20/64

CK

	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCE:	-	FORM 9		
	ING	<b>5.LEASE DESIGNATION AND SERIAL NUMBER:</b> ST ML 22798			
SUND	RY NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for proposition bottom-hole depth, reenter plu DRILL form for such proposals.	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES				
1. TYPE OF WELL Gas Well		8. WELL NAME and NUMBER: NBU 1022-32D4AS			
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		9. API NUMBER: 43047402050000		
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHON treet, Suite 600, Denver, CO, 80217 3779	<b>E NUMBER:</b> 720 929-6515 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES		
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0198 FNL 2077 FWL			COUNTY: UINTAH		
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: NENW Section: 32	IP, RANGE, MERIDIAN: Township: 10.0S Range: 22.0E Meridian: S	5	STATE: UTAH		
11. CHE	CK APPROPRIATE BOXES TO INDICATI	NATURE OF NOTICE, REPORT,	OR OTHER DATA		
TYPE OF SUBMISSION		TYPE OF ACTION			
_	☐ ACIDIZE	ALTER CASING	✓ CASING REPAIR		
Approximate date work will start:	☐ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	☐ CHANGE WELL NAME		
9/21/2011	☐ CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE		
SUBSEQUENT REPORT	☐ DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION		
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK		
	☐ PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION		
SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON		
	☐ TUBING REPAIR	VENT OR FLARE	☐ WATER DISPOSAL		
DRILLING REPORT Report Date:	☐ WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION		
керогі расе:	☐ WILDCAT WELL DETERMINATION	OTHER	OTHER:		
The operator request on the subject we	ompleted operations. Clearly show all pertits approval to conduct wellhea ell location. Please find the attaced repair work on the subject	d/casing repair operations the ched procedure for the well location.			
NAME (PLEASE PRINT)	PHONE NUMBER	TITLE Regulatory Analyst			
Andy Lytle SIGNATURE	720 929-6100	DATE			
N/A		9/21/2011			

#### **WORKORDER #:**

Name: <u>NBU 1022-32D4AS</u> - NBU 1022-32C PAD 5/16/2011

Surface Location: NENW Sec. 32, T10S, R22E

Uintah County, UT

**API:** 4304740205 **LEASE#:** ST ML 22798

**ELEVATIONS:** 5449' GL 5462' KB

**TOTAL DEPTH:** 8845' **PBTD:** 8789'

**SURFACE CASING:** 9 5/8", 36# J-55 @ 1959'

**PRODUCTION CASING:** 4 1/2", 11.6#, I-80 @ 8832'

TOC @ Surface per CBL

**PERFORATIONS:** Mesaverde 7038' – 8626'

Tubular/Borehole	Drift	Collapse psi	Burst psi	Capacities						
	inches			Gal./ft.	Cuft/ft.		Bbl./ft.			
2.375" 4.7# J-55 tbg.	1.901	8100	7700	0.1624		0.02171	0.00387			
4.5" 11.6# I-80	3.875	6350	7780	0.6528		0.0872	0.0155			
9.625" 36# J-55	8.921	2020	3520	3.247		0.434	0.0773			
Annular Capacities										
2.375" tbg. X 4 ½" 11.6#	2.375" tbg. X 4 ½" 11.6# csg 0.4227 0.0565									

#### **GEOLOGICAL TOPS:**

968' Green River

1686' Mahogany

4034' Wasatch

6673' Mesaverde

#### NBU 1022-32D4AS- WELLHEAD REPAIR PROCEDURE

#### PREP-WORK PRIOR TO MIRU:

- 1. Dig out down to the 2" surface casing valve or to the valve on the riser off the surface casing.
- 2. Install a tee with 2 valves, with a pressure gauge and sensor on one valve.
- 3. Open casing valve and record pressures.
- 4. Install nipple and steel hose on the other valve, the relief valve,. Do not use hammer unions. No impact equipment or tools to be used for any of this installation. Extend hose and hard piping to a downwind location at least 100' from the wellhead. Consider installing a manifold so that vent area could be in two locations approx. 90 degrees apart from the wellhead.
- 5. Open the relief valve and blow well down to the atmosphere.
- 6. Make a determination of amount of gas flow, either by installation of a choke nipple, bucket test or other.
- 7. Shut well in. Observe for rate of build-up by utilizing sensor data. Do not build-up for more than 24 hours. Vent gas through the vent line and leave open to the atmosphere.

#### **WORKOVER PROCEDURE:**

- 1. MIRU workover rig.
- 2. Kill well with 10# brine / KCL (dictated by well pressure ).
- 3. Remove tree, install double BOP with blind and 2 3/8" pipe rams, with accumulator closing unit and manual back-ups. Function test BOP system.
- 4. POOH w/ tubing laying down extra tubing.
- 5. Rig up wireline service. RIH and set CBP @ ~6988'. Dump bail 4 sx cement on top of plug. POOH and RD wireline service. TIH w/ tubing and seating nipple. Land tubing ±60' above cement. RDMO.
- 6. Monitor well pressures. If surface casing is dead. MIRU. ND WH and NU BOP. POOH w/ tubing.
- 7. Depending on conditions at wellsite, continue with either CUT/PATCH Procedure or BACK-OFF Procedure.

#### **CUT/PATCH PROCEDURE:**

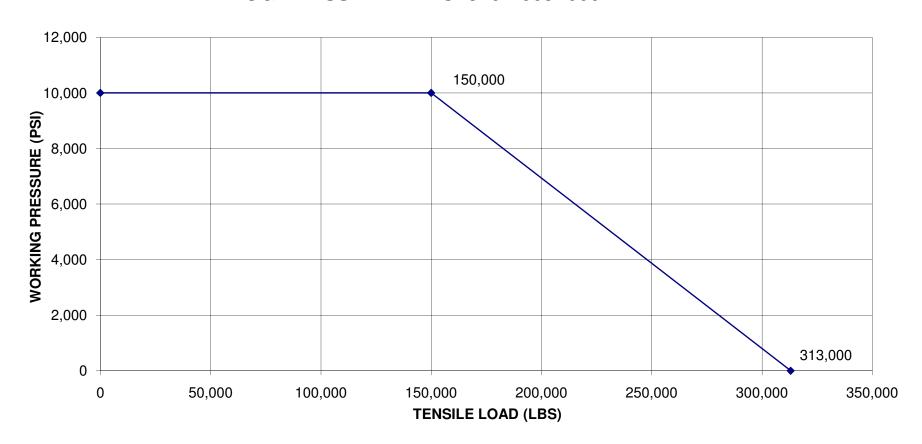
- 1. PU internal casing cutters and RIH. Cut casing at +/- 30' from surface.
- 2. POOH, LD cutters and casing.
- 3. PU 7 3/8" overshot with 4 ½" right hand standard wicker grapple, 1 4 ¾" drill collar with 3 ½" IF threads, pup joint, manual bumper sub, and crossovers. If casing cut is deeper than ±30' utilize >7000 ft-lb torque pipe as needed. Pull a minimum of 10,000# to keep grapple engaged if cement top is high (<~900'). If cement top is low (>~900'), more weight will be required to put casing in neutral. Torque casing string to ±7000 ft-lbs, count number of turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place ±7000 ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out, release overshot, POOH, and lay down.
- 4. TIH w/ skirted mill and dress off the fish top for approximately ½ hour. TOOH.
- 5. PU & RIH w/  $4\frac{1}{2}$ " 10k external casing patch on  $4\frac{1}{2}$ " P-110 casing. Ensure that sliding sleeve assembly shifts ±3' and casing tags no-go portion of patch. NOTE: Shear pins will shear at 3500 to 4500 lbs.
- 6. Latch fish, PU to 100,000# tension. RU B&C. Cycle pressure test to 3500 psi.
- 7. Install slips. Land casing w/ 80,000# tension.
- 8. Cut-off and dress 4 ½" casing stub.
- 9. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6938'. Clean out to PBTD (8789').
- 10. POOH, land tbg and pump off POBS.
- 11. NUWH, RDMO. Turn well over to production ops.

#### **BACK-OFF PROCEDURE:**

- 1. PU internal casing cutters and RIH. Cut casing at +/- 6' from surface.
- 2. POOH, LD cutters and casing.
- 3. PU 4 ½" overshot. RIH, latch fish. Pick string weight to neutral.
- 4. MIRU casing crew and wireline services. RIH and shoot string shot at casing collar @ ± 46'.
- 5. Back-off casing, POOH.

- 6. PU new casing joint with buttress threads and entry guide and RIH. Tag casing top. Thread into casing and torque up to ±7000 ft-lbs, count number of additional turns to make-up, and document in the daily report. Ensure that tongs are safely anchored to rig and that all personnel are at a safe working distance from the tongs during torque-up and torque release. After initial make-up, place pipe torque to neutral and mark pipe. Place ±7000 ft-lbs on casing a second time, count turns, then return pipe torque to neutral and count turns. Repeat if torque-up turns do not equal torque release turns. Once torque-in equals torque-out go to step 7.
- 7. PU 100,000# tension string weight. RU B&C. Cycle pressure test to 3500 psi.
- 8. Install slips. Land casing w/ 80,000# tension.
- 9. Cut-off and dress 4 ½" casing stub.
- 10. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~6938'. Clean out to PBTD (8789').
- 11. POOH, land tbg and pump off POBS.
- 12. NUWH, RDMO. Turn well over to production ops.

# STRENGTH DATA FOR LOGAN 5.88" OD "L" TYPE CSG PATCH 4-1/2 CASING, 10K PSI MAX WP 125K YIELD MAT'L LOGAN ASSEMBLY NO. 510L-005 -000



COLLAPSE PRESSURE: 11,222 PSI @ 0 TENSILE 8,634 PSI @ 220K TENSILE

Tensile Strength @ Yield: Tensile Strength w/ 0 Int. Press.= 472,791lbs. Tensile Strength w/ 10K Int. Press.= 313,748lbs.

DATA BY SLS 11/16/2009

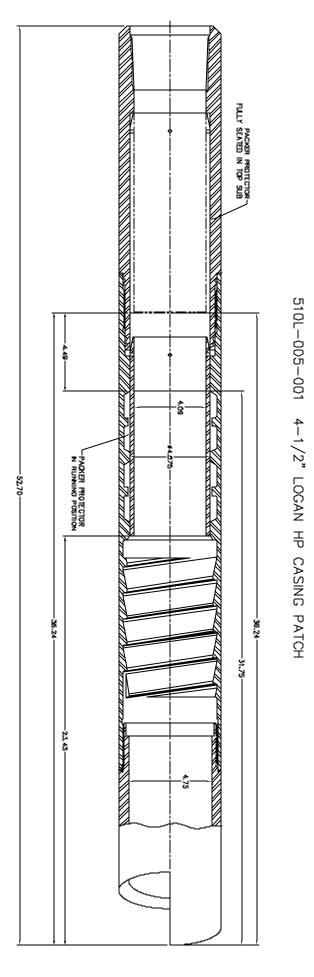


## **Logan High Pressure Casing Patches Assembly Procedure**

All parts should be thoroughly greased before being assembled.

- 1. Install all four Logan Type "L" Packers in the spaces provided in the Casing Patch Bowl. Refer to diagram provided for proper installation.
- 2. Install Packer Protector from the Basket Grapple end of the Bowl. The beveled end of the Packer Protector goes in first. Carefully push the Packer Protector through the four Type "L" Packers.
- 3. Align Shear Pin Holes in Packer Protector so that the holes have just passed into the counter bore at the Top Sub end, refer to diagram. The Packer Protector is provided with four Shear Pin Holes. Use only two holes, 180 degrees apart and install the pins.
- 4. Screw the Basket Grapple in from the lower end of the Bowl, using left-hand rotation. The Tang Slot in the Basket Grapple must land in line with the slot in the Bowl.
- 5. Insert the Basket Grapple Control into the end of the Bowl. Align Tang on the Basket Grapple Control with the Tang Slot of the Bowl and Basket Grapple. This secures the Bowl and the Basket Grapple together.
- 6. Install the Cutlipped Guide into the lower end of the Bowl.
- 7. Install O-Rings on the two five-foot long Extensions. Screw the first Extension into the top end of the Bowl. Screw the second Extension into the top end of the first Extension.
- 8. Install O-Ring on Top Sub. Screw Top Sub into top end of second Extension.

Follow recommended Make-Up Torque as provided in chart.



Sundry Number: 22517 API Well Number: 43047402050000

	STATE OF UTAH DEPARTMENT OF NATURAL RESOUF			FORM 9
ı		5.LEASE DESIGNATION AND SERIAL NUMBER: ST ML 22798		
SUNDR	RY NOTICES AND REPORTS	S ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
	oposals to drill new wells, significantl reenter plugged wells, or to drill horiz n for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER: NBU 1022-32D4AS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	SHORE, L.P.			9. API NUMBER: 43047402050000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 802		<b>NE NUMBER:</b> 9 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0198 FNL 2077 FWL				COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 32 Township: 10.0S Range: 22.0E Me	eridian:	S	STATE: UTAH
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE NA	ATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION			TYPE OF ACTION	
	ACIDIZE		LTER CASING	✓ CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	□ c	HANGE TUBING	CHANGE WELL NAME
7,pp. Oximuto dato notic um otali.	CHANGE WELL STATUS	□ с	OMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	□ F	RACTURE TREAT	☐ NEW CONSTRUCTION
10/5/2011	OPERATOR CHANGE	□ Р	LUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME		ECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION		IDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR		ENT OR FLARE	WATER DISPOSAL
DRILLING REPORT	WATER SHUTOFF		I TA STATUS EXTENSION	APD EXTENSION
Report Date:			I TA STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	✓ 0	THER	OTHER:
The operator has co	COMPLETED OPERATIONS. Clearly show Oncluded the wellhead/casi ase see the attached chron details of the operation	ing re nologi	pairs on the subject	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 24, 2012
NAME (DI EACE DEINT)	DUONE NUM	ADED	TITLE	
NAME (PLEASE PRINT) Jaime Scharnowske	<b>PHONE NUN</b> 720 929-6304	/IBER	TITLE Regulartory Analyst	
SIGNATURE N/A			<b>DATE</b> 1/24/2012	

Sundry Number: 22517 API Well Number: 43047402050000

					U:	S ROCK	(IFS RE	GION		
								ry Report		
Well: NBU 1022-32D4AS [YELLOW] Spud Col Project: UTAH-UINTAH Site: NBU Event: WELL WORK EXPENSE Start Date						C PAD		Spud Date: 6/7/2009  Rig Name No: SWABBCO 6/6  End Date: 10/5/2011		
Active Datum: Rh Level)	(B @5,4	63.01ft (abov	e Mean Sea		UWI: 0/	10/S/22/E/	32/0/NE1	NW/26/PM/N/198.	.00/W/0/2,077.00/0/0	
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation	
9/29/2011	7:00	- 7:15	0.25	WO/REP	48		Р		JSA= WELL CONTROL	
	7:15	- 16:00	8.75	WO/REP	30		P		FWP= SET 3 ANCHORS RU RIG SPOT EQUIP NU RIG PMP CONTROL WELL W/ 20 BBLS TMAC ND W/H NU BOPS RU FLOOR & TUBING EQUIP UNLAND TUBING B/O HNGR POOH W/ 258 JNTS TUBING LD BHA RU W/L RIH W/ GUAGE RNG TO 7000' POOH PU 10K CIBP RIH SET @ 6970' DUMP BAIL 2 SKS CEM ON CIBP FILL HOLE W/ TMAC PRESS TEST TO 500#	
9/30/2011	7:00	- 7:15	0.25	WO/REP	48		Р		JSA= CSG TONG SAFETY	
		- 15:00	7.75	WO/REP	30		Р		SIWP= 0 PSI ND BOPS PU INT CUTTER RIH CUT CSG BELOW HNGR PU OVERSHOT RIH RU TONGS & W/L APPLY LH TORQUE RIH W/ STRING SHOT B/O CSG @ 1ST COLLAR POOH PU NEW 10' PUP RIH THREAD ONTO CSG STRING TORQUE TO 7000# RU TESTER & TEST TO 3500# SET SLIPS W/ 90000# TENSION NU W/H & BOPS RU FLOOR & TUBING EQUIP PU 3-7/8" BIT RIH TAG TOC @ 6950' PREP TO D/O MON SIW SDFW	
10/3/2011	7:00	- 7:15	0.25	WO/REP	48		Р		JSA= FOAMING	
10/4/2011		- 19:00 - 7:15	11.75	WO/REP	30		P		SIWP= 0 PSI EST CIRC W/ FOAM AIR UNIT DRILL THRU CEM & CIBP CONTINUE TO RIH TAG @ 8183 RU SWIVEL EST CIRC START DRILLING TUBING PARTED SHUT DWN FOAMER LET WELL BLOW DOWN CONT WELL W/ TMAC RD PWR SWVL POOH TO END OF TUBING 29 JNTS DOWN POOH W/ 919.80' TUBING LEFT 7263' IN WELL CALL OUT FISHING TOOLS RIH W/ OVERSHOT TAG FISH TOP @ 1110' FISH STUCK WORK FREE POOH 35 JNTS TO TOOLS LD FISHING TOOLS B/O COLLAR (LOOKS GUALDED) POOH W/ PLUGGED TUBING PULLED 78 JNTS TUBING WAS CORK SCREWED LD 180 BAD JNTS SIW SDFN	
10/4/2011	7:00	- 7:15	0.25	WO/REP	48		P		JSA=	
	7:15	- 17:00	9.75	WO/REP	30		P		SIWP= 400 PSI OPEN WELL TO FBT PUMP 20 BBLS TMAC TO CONTROL WELL PU BIT TALLEY & PU 180 JNTS TO REPLACE BAD TUBING RUN TUBING OUT OF DERRICK TAG FILL @ 8333.43' 263 JNTS IN HOLE EST CIRC W/ FOAM AIR UNIT DRILL THRU BTM PLG & 40' SCALE CONT TO RIH TAG @ 8685' C/O & DRILL TO 8707' TAG SOLID CIRC CLEAN POOH LD 17 JNTS LAND TUB ON HNGR W/ 258 JNTS EOT @ 8193.12' SIW SDFN	
10/5/2011	7:00	- 7:15	0.25	WO/REP	48		Р		JSA= SAND LINE SAFETY	
	7:15	- 10:00	2.75	WO/REP	30		Р		SIWP= 700# OPEN TO FBT DROP BALL PUMP 30 BBLS TMAC PUMP OFF BIT 1200# RU W/L RIH W/ BROACH TO XN NPL @ 8193' RD FLOOR & TUBING EQUIP ND BOPS NU WELLHEAD SIW RD RIG MOVE TO NBU 1022-32D1S	

10/17/2011 8:35:50AM 1